DECEMBER, 1937

COTTON

Serving the

TEXTILE INDUSTRIES

"Never mind the adding machine. There's nothing to this 'seconds' inventory since we've been running Dixie yarns."

DIXIE DURENE . . . A PRODUCT OF CONTROLLED MANUFACTURE

Dixie MERCERIZING COMPANY, Chattanooga, Tenn.

EQUALS FRANKLIN PROCESS SERVICE

We carry in stock a great many of the popular counts and qualities of cotton yarns to facilitate prompt service.

For coloring these yarns we maintain at all our dye houses a large number of package dyeing machines in 22 different sizes and ranging from 1 to 3000 lbs. in capacity. Therefore there is practically always a machine of the proper size promptly available to take care of a given lot of yarn in one batch.

After dyeing the yarn can be delivered in Franklin Packages (suitable for warping or winding) or rewound to cones, tubes, section beams or ball warps.

The Franklin Package, being exceptionally hard and having firm, square corners, will deliver at higher speeds and with less breakage and waste than other types of dyeing packages. This is due to certain peculiarities of the Franklin Process which will be explained to you by our representative on request.

Franklin Process

SPECIALISTS IN PACKAGE DYEING SINCE 1910

Natural Yarns *Colored Yarns* *Glazed Yarns* *Dyeing and Processing Machines*

PROVIDENCE · PHILADELPHIA · GREENVILLE · CHATTANOOGA · CHICAGO · N. Y. REPRESENTATIVE, 40 WORTH ST.

COTTON is published monthly by W. R. C. Smith Publishing Company, Dalton and Atlanta, Ga.
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Entered as second-class matter at the postoffice, Dalton, Ga., under the Act of March 3, 1879.

One Shuttle

with

4 Interchangeable Eyes

to Handle

A Wide Range of Filling Yarns

183-X Improved 183 for Better Threading of a Wide Variety of Common Yarns

275 With V-type Throat for Coarse Yarns

274 With Steel Post For Yarns that Would Cut Cast Iron

273 With Steel Post for L H Wind

All of the Above Eyes Fit the Same Cut in the Shuttle Blank and May be Substituted for Each Other in the Same Shuttle

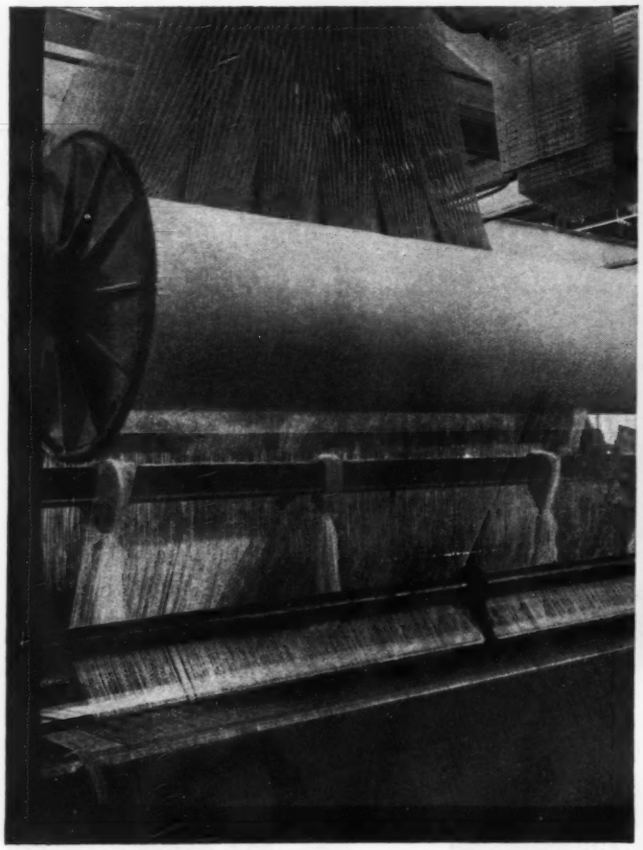
Draper Shuttles Are Best for Draper Looms

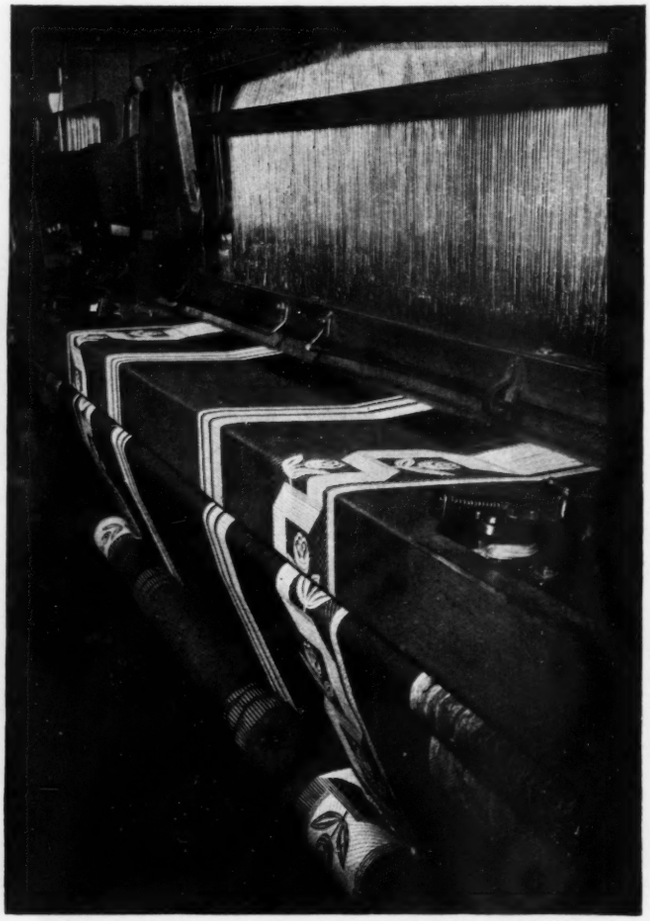
DRAPER CORPORATION

Atlanta Georgia Hopedale Massachusetts Spartanburg S C

THROUGHOUT THE BATES MILL

...*for* 17 *YEARS*





The selection and proper application of Texaco Lubricants developed especially for loom mechanisms assure maximum bearing protection, improved quality output, with vastly reduced oil throwing and spoilage.

IN the Bates Manufacturing Company's mills at Lewiston, Maine, lubrication is considered an important element in maintaining efficient production schedules.

Since 1920, this company has used Texaco Lubricants consistently.

This "Down East" textile mill is a fine example of giving lubrication the importance it deserves . . . by letting Texaco Engineering Service cooperate with plant personnel in getting perfected lubrication throughout the plant.

These trained lubrication engineers are available for consultation on the selection and application of Texaco Textile Lubricants. Prompt delivery assured from 2070 warehouse plants throughout the United States.

Get in touch now with Texaco. Find out about these latest developments . . . what Texaco lubrication can mean to you. The Texas Company, 135 East 42nd Street, New York City.

TEXACO TEXTILE MILL *LUBRICANTS*

THE INDUSTRIAL DRYER CORPORATION
manufacturers of "H-W" conditioners and mullers

P. O. BOX 850
STAMFORD
CONNECTICUT

The Brown Instrument Company,
Philadelphia,
Penna.

Gentlemen:

The accurate control and permanent record of temperature and humidity are of the utmost importance in conditioning silk, rayon and woolen yarns.

In equipping all "H-W" Conditioners with Brown Control Hygrometers we have felt that it is better economy to use the finest type of control equipment available.

Our selection of Brown Controls for this critical requirement has been fully justified by the very satisfactory results obtained on many installations.

Very truly yours,
THE INDUSTRIAL DRYER CORPORATION
F. W. Caesar
FWC:KH F. W. Caesar - Vice President.

Here are a Few Well Known Users of Brown Control Hygrometers and H-W Conditioners

Cooper-Wells & Co.
Bloomsburgh Silk Mills
Pilot Full Fashioned Mills, Inc.
Concordia Manufacturing Co.
Concord Knitting Co.
Malina Co. of N. J., Inc.
Belmont Hosiery Co.
Moster & Feldman
Hankow Silk Importing Co.
Canadian Silk Products, Ltd.
Newmarket Mfg. Co.
Adams Millis Corp.

UNPRECEDENTED PERFORMANCE

To practical textile men results are more convincing than rhetoric.

The above letter is concerned with proper yarn conditioning—which requires accurate control of temperature and relative humidity.

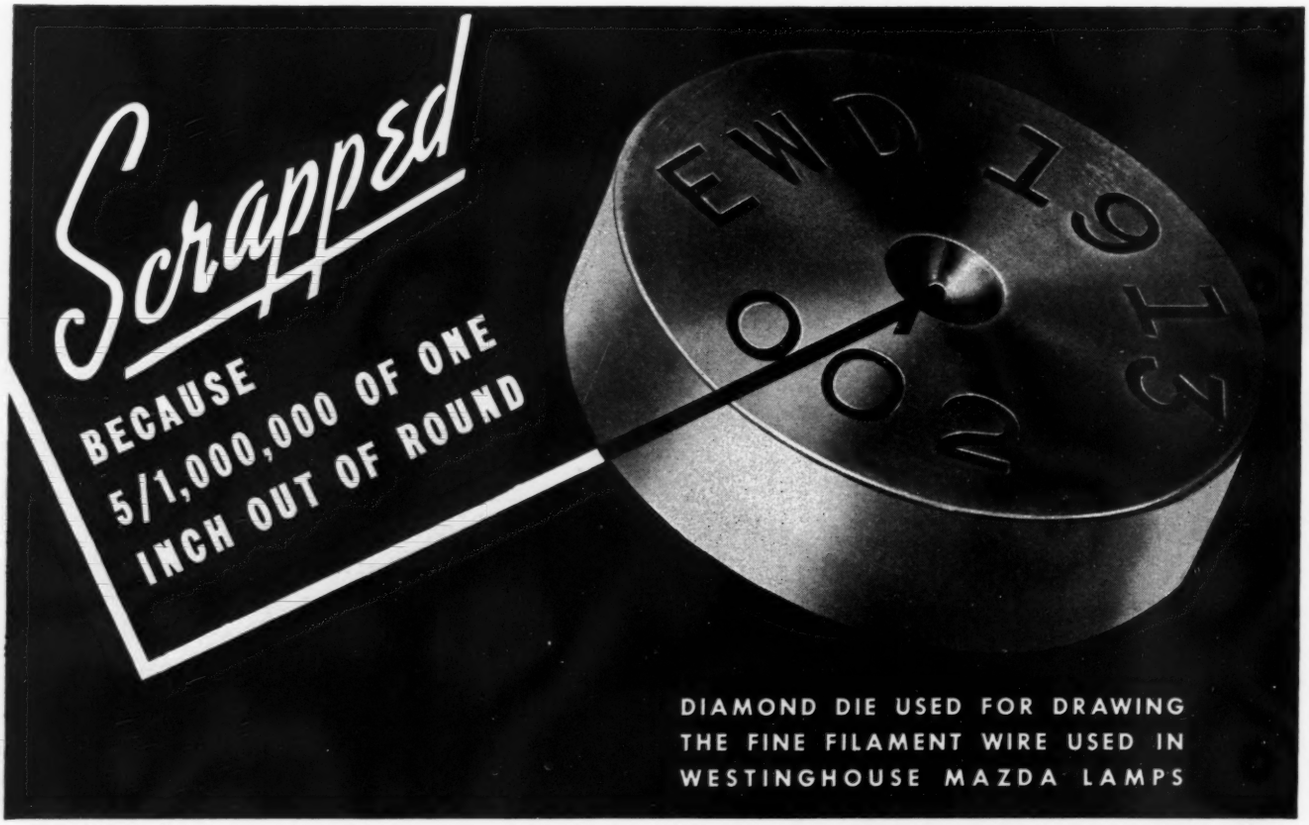
In the leading textile plants where H-W YARN CONDITIONERS and BROWN HUMIDITY CONTROLLERS are installed, guesswork is eliminated from yarn conditioning, resulting in uniformity, proper twist setting and high quality yarn.

Brown Humidity Controllers make it possible for users of H-W Conditioners to control the desired temperature and humidity throughout the conditioning period—assuring best quality yarn—good knitting and weaving results irrespective of denier, amount of twist, or diameter of yarn package.

This is only one of the many uses for Brown Humidity Controllers in the textile industry. Brown Catalog No. 6502 will explain many more. Write THE BROWN INSTRUMENT COMPANY, *a division of Minneapolis-Honeywell Regulator Co.*, 4492 Wayne Avenue, Philadelphia, Pa. Offices in all principal cities. Toronto, Canada: 117 Peter Street—Amsterdam-C, Holland: Wijdesteeg 4—London, England: 70 St. Thomas' Street, S.E.1.

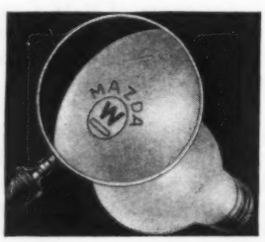
BROWN THERMOMETER CONTROLLERS
and
MINNEAPOLIS-HONEYWELL CONTROL SYSTEMS

To Measure and Control is to Economize



An example of Westinghouse Mazda Lamp Precision— to give you MORE LIGHT—LONGER

The filament is the heart of a lamp. It must be perfect if the lamp is to give longer service, better light. Filament wires for Westinghouse Mazda Lamps are drawn through microscopic holes in diamonds—holes as small and as perfect as human and mechanical skill permit. If there were the slightest variation in their roundness, the life and the light output of finished lamps would be impaired. To insure perfect filaments, the diamond dies made and used by Westinghouse for making the finest wire are checked for roundness with a maximum tolerance of 5 millionths of an inch. This exacting requirement allows Westinghouse to produce lamps that are truly economical—lamps that give you more light—longer.



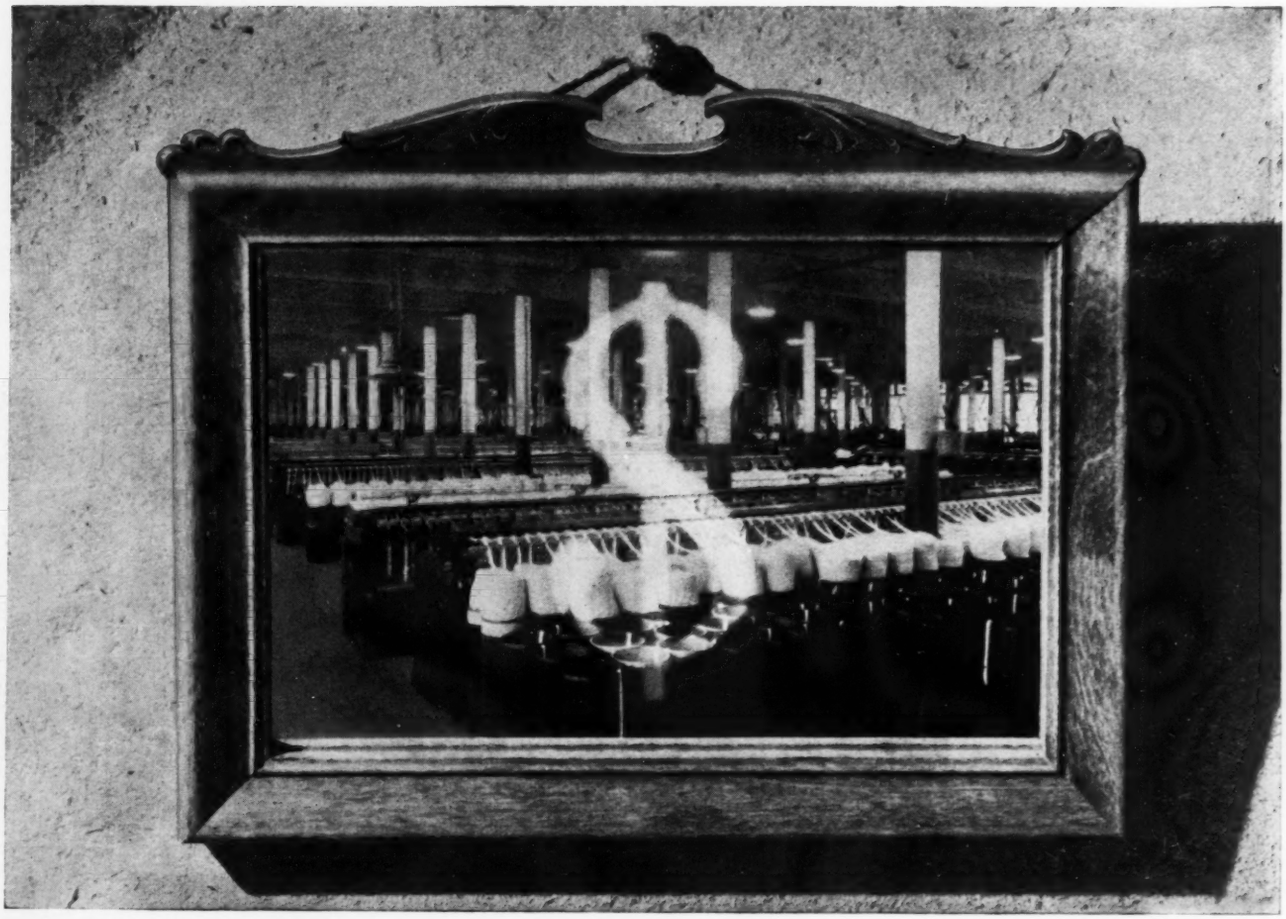
Over 480 tests and inspections of materials and processes go into the making of every Westinghouse Mazda Lamp. If any one of these tests or inspections were omitted, the quality of the lamp might be impaired. When you see the Westinghouse trade-mark on a Mazda lamp, you know that it is the best lamp science and engineering skill can make.

HOW TO JUDGE A LAMP

Lamps differ in quality. Inefficient lamps waste current and increase the cost of light. Our free booklet, *"How to Judge a Lamp"*, tells the important points to consider when buying lamps. Send for it today. Westinghouse Lamp Div., Westinghouse Elec. & Mfg. Co., 150 Broadway, New York, N. Y.

Westinghouse makes no compromise with quality

Westinghouse MAZDA LAMPS



Yarn Processing Reflects a Profit with WHITIN EQUIPMENT

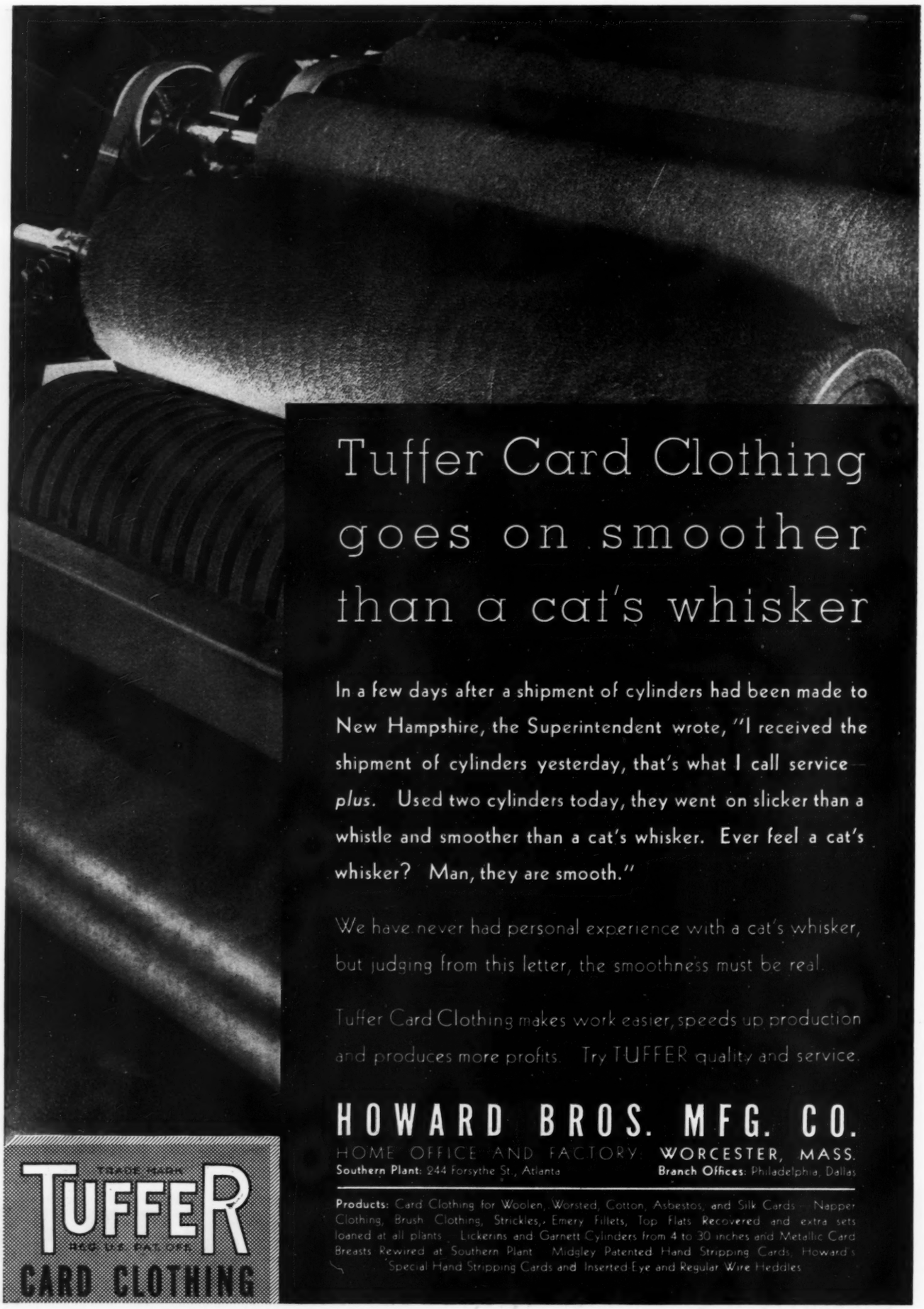
Hundreds of mills this year alone, can hold up a mirror to their yarn processing departments and find the profit sign reflected there, by the installation of Whitin equipment. To a far larger number of mills trying to get by without equipment changes, the same mirror would show nothing but loss.

Progressive mills have capitalized upon the far reaching improvements of Whitin engineers to increase production, to increase quality of product and to effect operating savings from the opening room straight through to the twister room.

By planned revampment, even over a period of years, the gap between obsolete and modern equipment remains constantly closed. In many instances that's been our job. If you care to know how a revampment program can apply to your mill we would like to show you "operating proof" in mills with problems similar to yours.

WHITIN MACHINE WORKS

CHARLOTTE, N. C. WHITINSVILLE, MASS. ATLANTA, GA.



Tuffer Card Clothing goes on smoother than a cat's whisker

In a few days after a shipment of cylinders had been made to New Hampshire, the Superintendent wrote, "I received the shipment of cylinders yesterday, that's what I call service—*plus*. Used two cylinders today, they went on slicker than a whistle and smoother than a cat's whisker. Ever feel a cat's whisker? Man, they are smooth."

We have never had personal experience with a cat's whisker, but judging from this letter, the smoothness must be real.

Tuffer Card Clothing makes work easier, speeds up production and produces more profits. Try TUFFER quality and service.

TRADE MARK
TUFFER
REG. U.S. PAT. OFF.
CARD CLOTHING

HOWARD BROS. MFG. CO.

HOME OFFICE AND FACTORY: WORCESTER, MASS.

Southern Plant: 244 Forsythe St., Atlanta **Branch Offices:** Philadelphia, Dallas

Products: Card Clothing for Woolen, Worsted, Cotton, Asbestos, and Silk Cards — Napper Clothing, Brush Clothing, Strickles, Emery Fillets, Top Flats Recovered and extra sets loaned at all plants — Lickerins and Garnett Cylinders from 4 to 30 inches and Metallic Card Breasts Rewired at Southern Plant — Midgley Patented Hand Stripping Cards, Howard's Special Hand Stripping Cards and Inserted Eye and Regular Wire Heddles

Truly "THE FLOOR of CAPTIVE SUNLIGHT"

In the Wrapping Room of Drake Bakeries, as throughout the entire plant, Hard Maple Floors insure exceptional cleanliness, sanitation and low cleaning cost.

Hard Maple Floor in the Doughnut Make-up Room of Drake Bakeries, Inc., Brooklyn Plant.

The Packaging Room — floored with tough-fibred, tight-grained Northern Hard Maple. Heavy truck traffic is speeded up over its hard, smooth surface.

AFTER choosing a floor material for durability, it is gratifying to discover you're also reducing lighting costs, increasing efficiency and acquiring an impressive advertising feature. Many a textile mill has found these "plus" values in Northern Hard Maple. Its smooth, light-colored surface virtually captures sunlight—helps provide a maximum of clear light for accurate work and minimum lighting costs.

Beyond durability, daylight saving is one of the "plusses" of a Hard Maple floor—like its warmth, dryness, resilience, simplified alterations and lower cleaning and maintenance cost.

These "plus" values are well known to the Drake Bakeries of Brooklyn, who state:

"We use Hard Maple Floors in our cake bakeries because they are durable and free from dust. Our employees find them easy on their feet.

"We have used the steel wool buffing equipment of sealing and dry cleaning our Maple Floors for several years. This process has kept them immaculate and made them still more durable as it keeps the wood hard and sealed. They look like ballroom floors, even in areas that are trucked over constantly.

"Our Maple Floors, when maintained this way, have definite advertising value for us, since no one can visit our plants without being favorably impressed by the clean, wholesome appearance of our floors."

Whether bakery or textile mill, when you floor with Hard Maple, all these reasons combine to insure your satisfaction and greatest ultimate economy. Before building or remodeling, consult your architect about **MFMA*** Northern Hard Maple, (available in strips or blocks) the only flooring whose grading is **MFMA** supervised.

See our catalog data in Sweet's, Sec. 17/66.
Write us for folder on Heavy-Duty Finishes.

MAPLE FLOORING MANUFACTURERS ASSOCIATION
1794 McCormick Building, Chicago, Illinois

Floor *with* Maple

***MFMA** — This trade-mark on Maple Flooring guarantees that it conforms to the exacting grade standards of the Maple Flooring Manufacturers Association. It protects you against species substitution and inferior grade. It assures you of *genuine* Northern Hard Maple. Look for it on the flooring you buy.

MFMA Approved

NORTHERN HARD MAPLE IS THE LONGEST-WEARING COMFORTABLE FLOOR

Certified STEEL HEDDLES manufactured by a process insuring smoothness of eye, long wear, high tensile strength, durability and corrosion resistance of plating. Heddles purchased in open market are examined and tested periodically by
PITTSBURGH TESTING LABORATORY
as an independent check upon Emmons' standards of manufacturing control.
EMMONS LOOM HARNESS COMPANY
LAWRENCE, MASSACHUSETTS

. . . sincerely yours

Emmons makes no unbacked-up claims for its "Certified" Steel Heddles. We manufacture them as carefully and as well as modern equipment and inspection methods will permit. So when you make your choice you'll know what you get from Emmons — we have gone to the famous Pittsburgh Testing Laboratory and had them buy "Certified" Heddles in the open market — and test them for the points of quality that are most important to you.

No manufacturer can be more sincere than that to his customers. When we say Emmons is "Certified"— we mean it. The Heddles . . . taken at random from production . . . have been independently checked for quality every month — and our manufacturing standards *have had to be high* to meet that monthly check up.

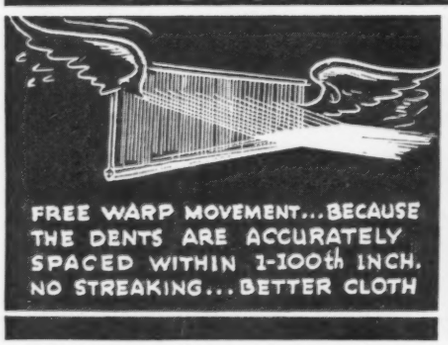
So far as we know, Emmons "Certified" Steel Heddles are the only ones on the market that give you this definite, proven standard of quality — by which you can judge them.

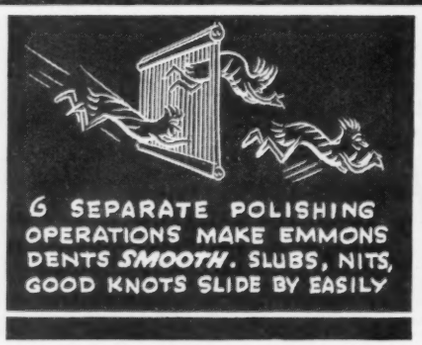
There are large stocks of standard sizes available always for quickest possible delivery. May we have your order?

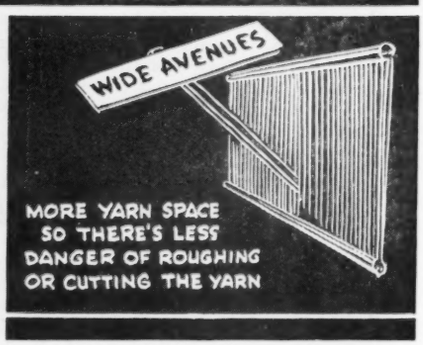
Emmons

"CERTIFIED" STEEL HEDDLES

"MULTIPLIED YARN SPACE" REEDS



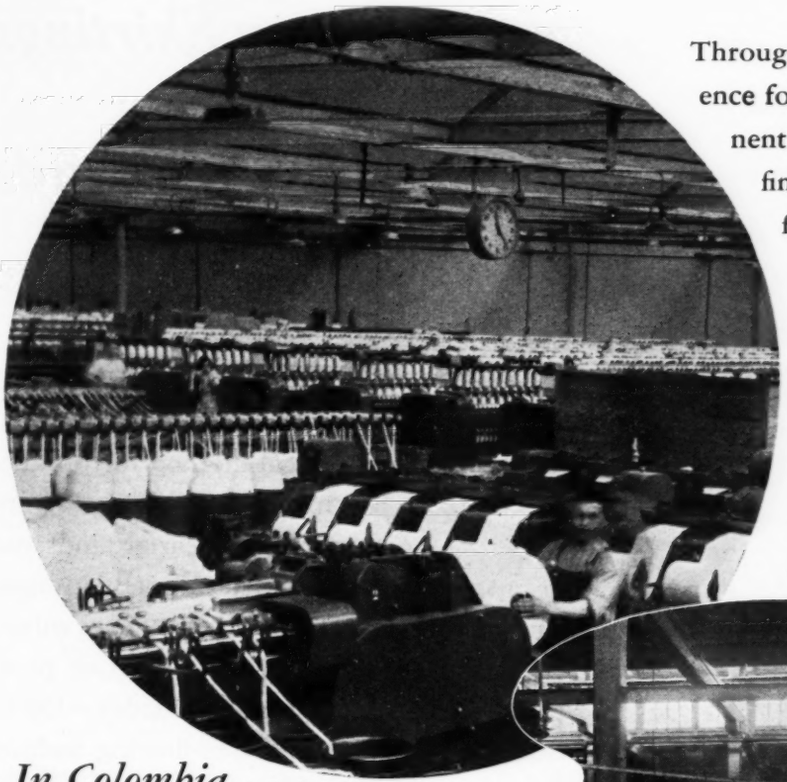




"Certified" Steel Heddles • "Multiplied Yarn Space" Reeds • "Chafeless Cord" Cotton Harness

Described in TEXTILE WORLD YEARBOOK

ALL OVER THE WORLD—WHERE *Quality* IS PARAMOUNT — YOU WILL FIND SACO-LOWELL EQUIPMENT



Throughout the world there is a definite preference for Saco-Lowell equipment. On the continent and in South America — wherever you find a progressive mill you will be certain to find Saco-Lowell equipment in operation. These mills, realizing the need for dependable and efficient equipment, have followed the lead of America's great mills and have turned to Saco-Lowell for their modernization requirements. Saco-Lowell engineers invite your inquiry, and would welcome the opportunity to consult with you on your mill problems.

In Colombia . . .

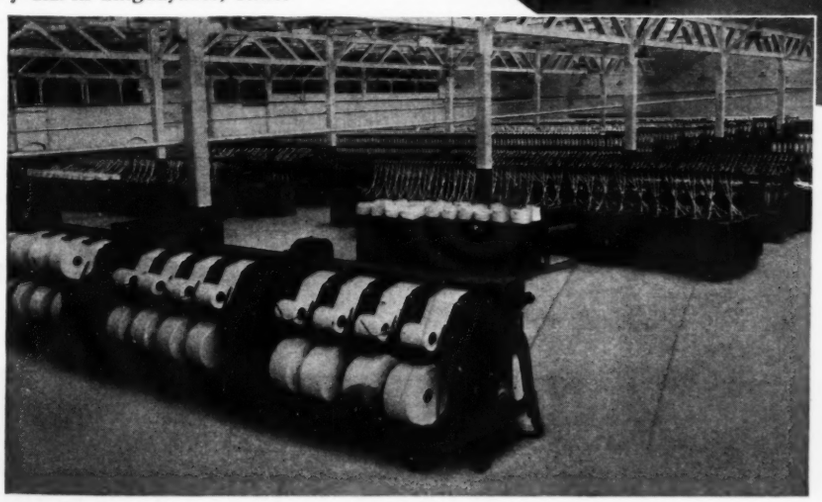
Interior view of the Cia. de Tejidos de Rosellon, S. A. Medellin, Colombia, showing Saco-Lowell Drawing Frames.

In North Carolina . . .

Saco-Lowell Drawing Frames at the Cannon Mills, Plant No. 4, Kannapolis, N. C.

In Chile . . .

Saco-Lowell Drawing Frames at the Fabrica de Tejidos de Algodon, Grace y Cia. in Chiguayante, Chile.



Saco-Lowell Shops

147 Milk St., Boston, Mass.

. . . SAVE BY MODERNIZING

DU PONT PEROXIDES

for Quality Bleaching of Dyed Yarn Shirtings

Clear White Grounds and Bright Colors

MORE and more textile mills have found that Peroxide processing is the satisfactory and economical method for production of fast-selling merchandise. In dyed yarn shirtings, for instance, the clear grounds and bright colors have decided sales advantages. And all other types of fabrics, plain or mixed or combinations, can be bleached or processed with the du Pont Peroxides—DFF† SOLOZONE*, dustless, free-flowing Sodium Peroxide; ALBONE*, 100-volume electrolytic Hydrogen Peroxide; and du Pont Sodium Perborate.

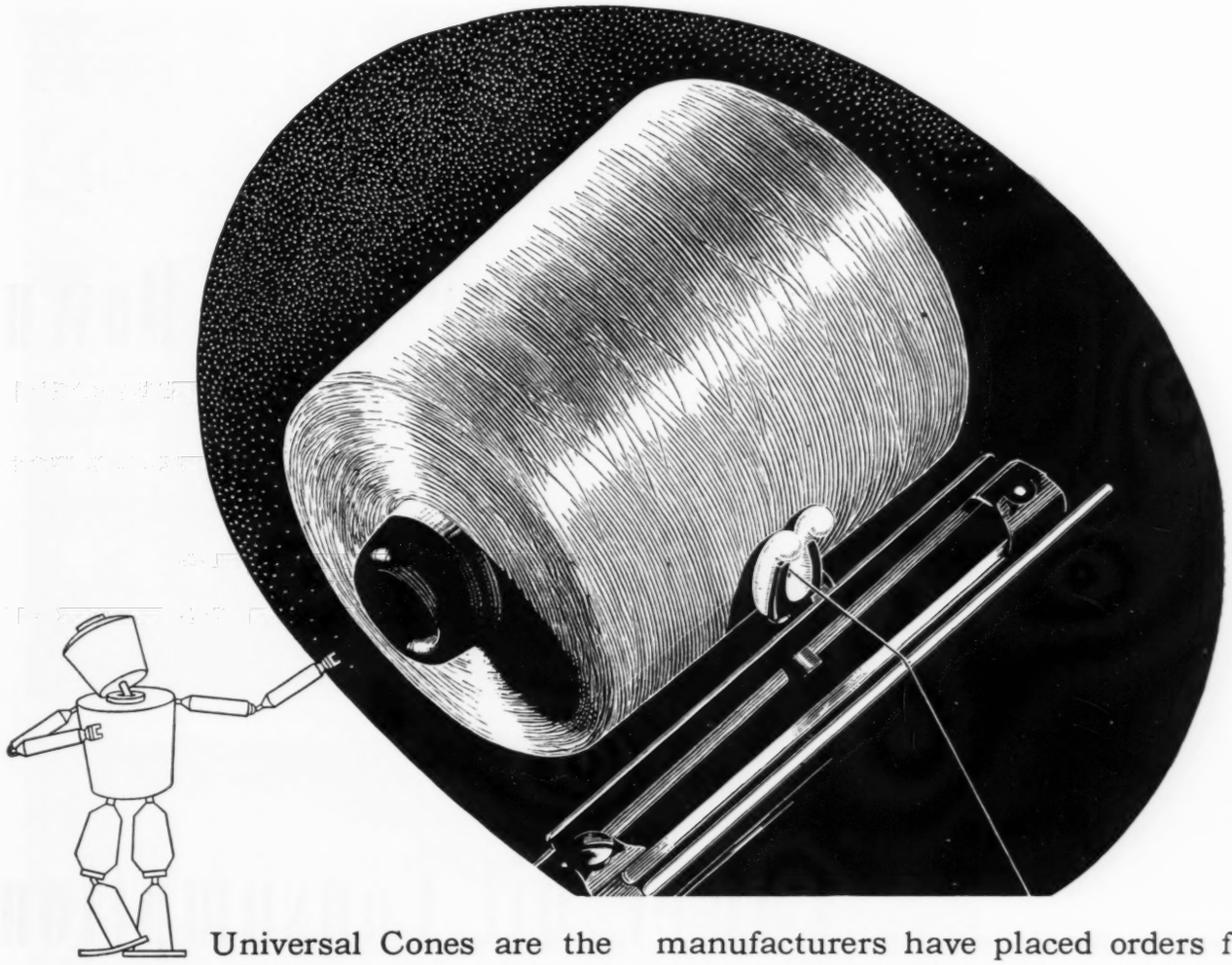
Thirty years of experience with Peroxide bleaching have enabled us to build up a skilled Technical Service—central laboratory facilities and bleaching experts with sound, practical experience, located in the textile districts to give prompt service. This Service is available for the efficient and economical use of du Pont Peroxides, in processing a particular fabric under mill conditions. A call or letter to our nearest District Office will bring this Service right into your mill.

†Trade Mark
*Reg. U. S. Pat. Off.

DU PONT
REG. U.S. PAT. OFF.

The R. & H. Chemicals Department
E. I. DU PONT DE NEMOURS & COMPANY, INC.
Wilmington, Delaware

District Sales Offices: Baltimore, Boston, Charlotte, Chicago, Cleveland, Kansas City, Newark, New York, Philadelphia, Pittsburgh, San Francisco



Universal Cones are the products of precision winding—in more ways than one.

In addition to the precise wind—providing the most suitable form of package for handling and shipping — the precision-built winder insures the proper degree of yarn inspection.

This year all of the leading rayon manufacturers have placed orders for Leesona Winders. And more than 90% of the silk manufacturers standardize on the same machine.

For *protected* quality — Universal precise-wound Cones.

Write for bulletins on recent developments in the design of the Number 50 and Number 90 Leesona Winders.

UNIVERSAL *precise-wound* CONES FROM LEESONA *precision-built* WINDERS

UNIVERSAL WINDING COMPANY

BOSTON - NEW YORK - UTICA - CHARLOTTE - ATLANTA - PROVIDENCE

7305

Fewer Ends Down

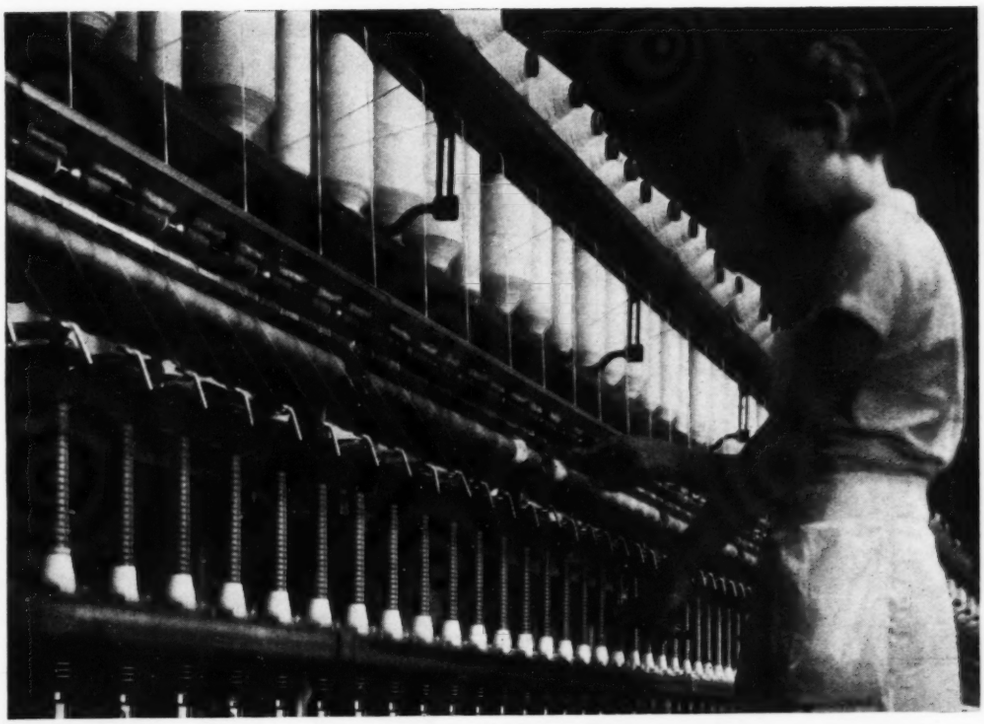
Lower Oil Consumption

"We have fewer breaks and ends down since we standardized on Gulfgem Oil for our spindle lubrication," says this mill manager, "and we use less oil!"

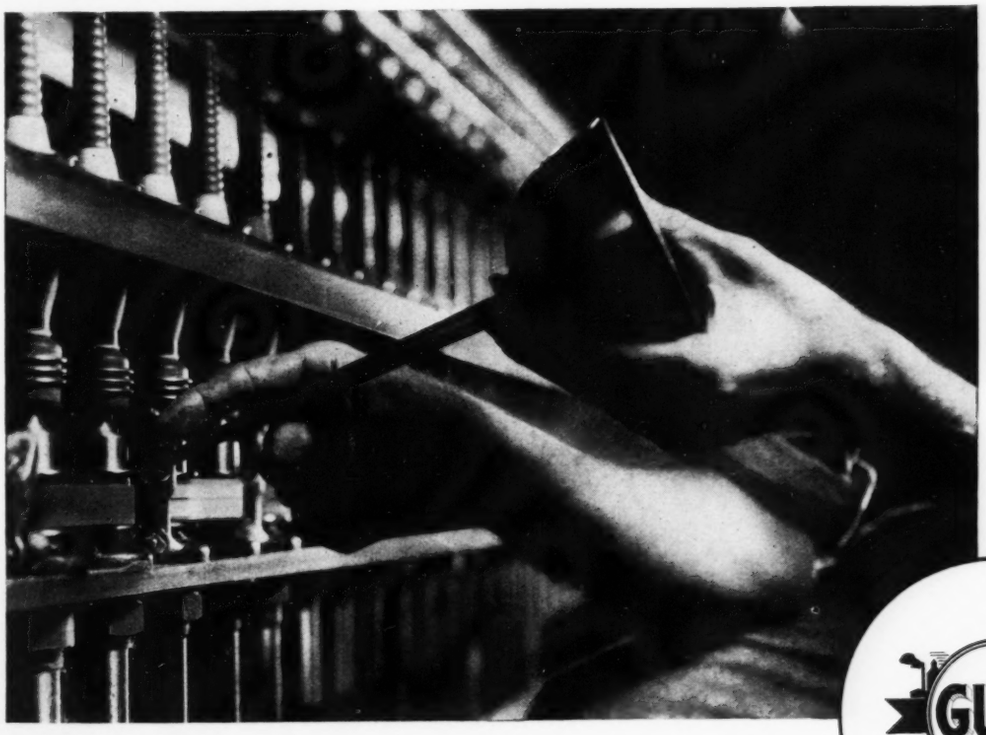
There's good reason why fewer threads should break when spindles are lubricated with Gulfgem Oil. For Gulfgem has been refined by Gulf's exclusive Alchlor process, which produces a spindle oil of greater stability than any of which we have record. Because the elements which oxidize readily have been removed, there is practically no change in the viscosity of Gulfgem, either from temperature variation or oxidation. Thus a constant load and smooth operation are insured.

An oil with this high degree of refinement can be used over longer periods of time with minimum deterioration. Better lubrication will be maintained with a lower rate of oil consumption.

In Gulf's large staff of field engineers are a group of men who have made a special study of the lubrication of textile mill equipment. These textile specialists work each day with operating men in mills throughout the country. They are well qualified to recommend improved lubrication practice for the equipment in your plant. If you are not receiving the benefits of Gulf lubrication service now, we suggest that you talk this matter over with the Gulf man the next time he calls. You will not be obligated in any way. Gulf Oil Corporation — Gulf Refining Company, General Offices, Gulf Building, Pittsburgh, Pa.



Maximum stability with minimum change in viscosity — either from temperature variation or oxidation — insures a constant load and smooth operation when Gulfgem Oil is in service. The result is fewer breaks and ends down.



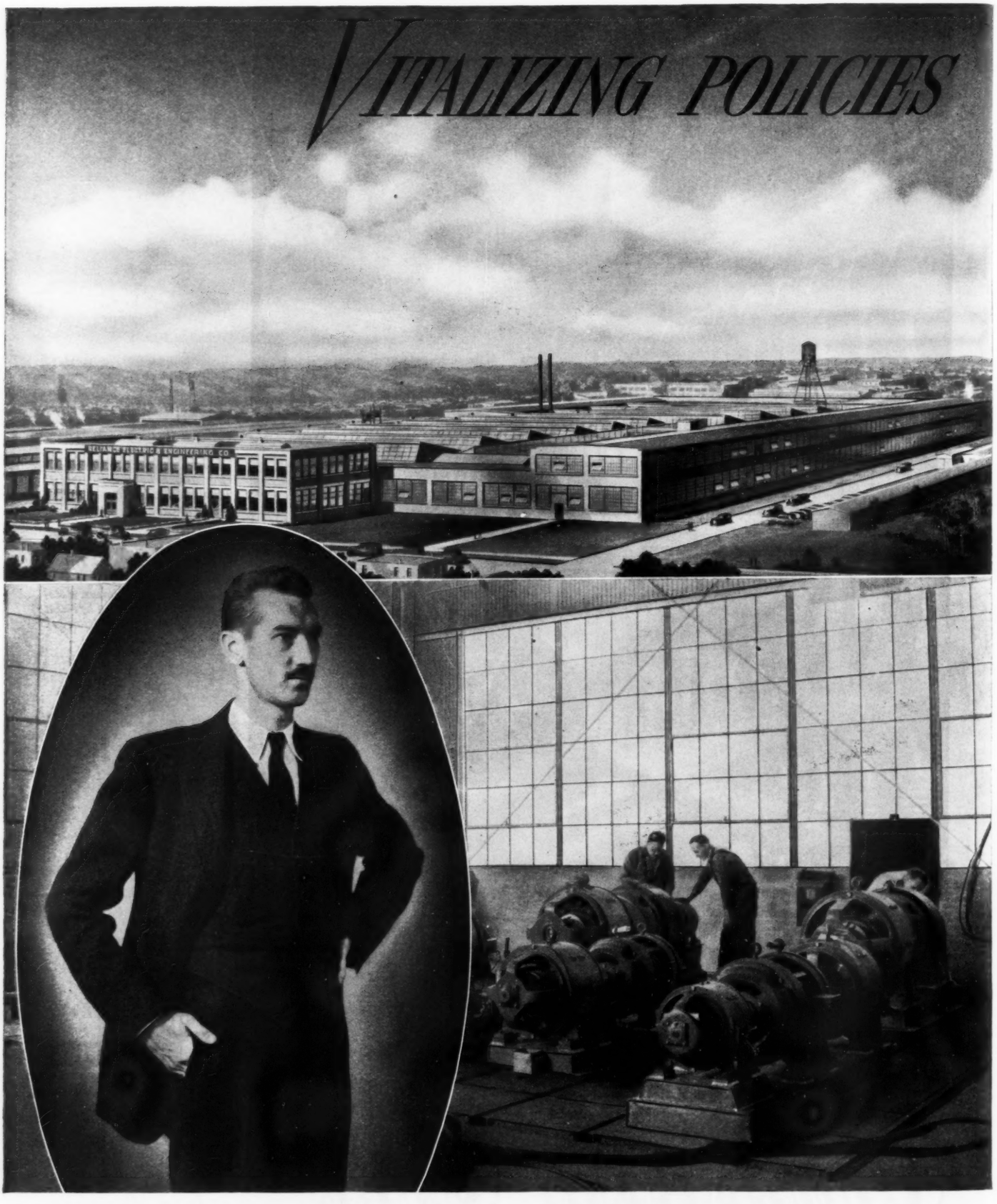
Because of the unparalleled stability of Gulfgem Oil, it can be used over long periods of time with minimum deterioration. Thus, long life and a low rate of consumption are assured.

GULF INDUSTRIAL LUBRICATION

GULFGEM OIL

FOR MORE EFFICIENT

SPINDLE LUBRICATION



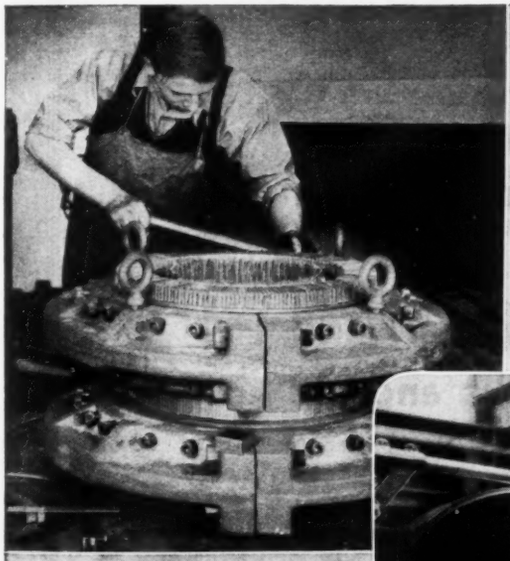
S. B. Taylor came into production work with a background of experience in both the electrical and mechanical design of Reliance Motors. As a consequence he supervises manufacturing with a keen appreciation of how sound design can be best translated into the finished motor.

through Understanding

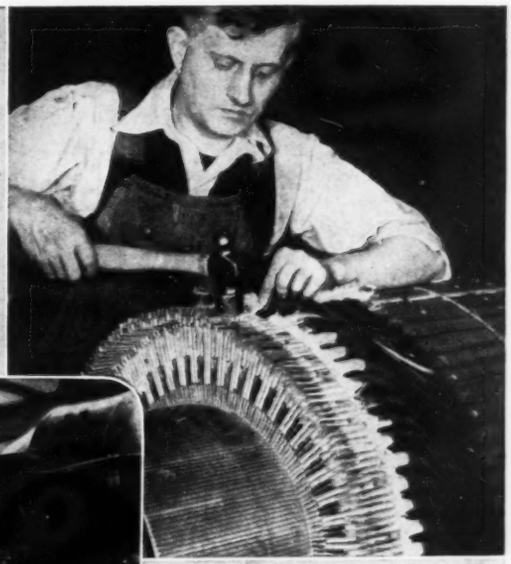
We are glad to have our friends visit us because by doing so they get first-hand evidence that we have the essentials for creating a good product—a modern plant, efficient machinery and up-to-date methods. There's something else about the place that's not so tangible, but still is mighty important. It has to do with the men who build and supervise. » » » In the 31 years that we have been making motors, a clear understanding has developed all down the line about the following things . . That it's definitely a part of the Reliance plan to build motors that are unexcelled and to make sure they do all that is expected of them . . That Reliance is catering to plants where motors must do hard work, so that the best of workmanship is required to supplement liberal design and high-grade materials . . That each man contributes to promoting the Reliance reputation for top-notch quality and helpful service if he does his own job well and becomes an effectual team-mate when cooperation is needed.

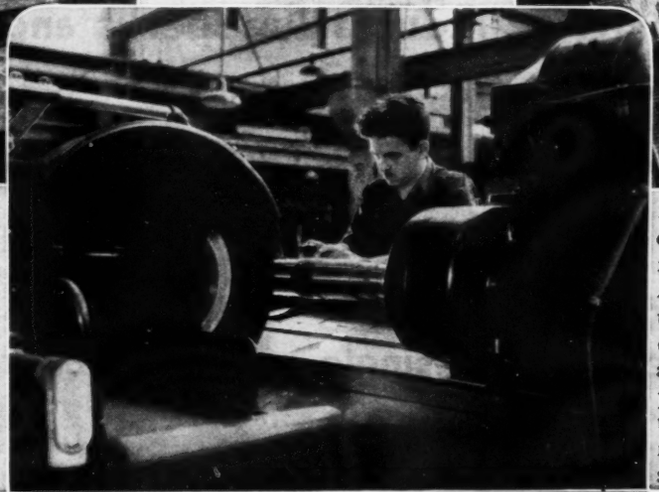
S. B. Dayton

Works Manager,
Reliance Electric and Engineering Company



Below — Grinding armature shafts to close tolerances is typical of the care taken to assure accurate fits and the interchangeability of parts for Reliance Motors. We are accustomed to pleasing people who are particular about such matters, especially as they concern the mounting of motors for direct drives.





Above—Thoroughness is emphasized as an essential to quality in the construction of many Reliance parts. For example, to make certain of tightness, this commutator will be heated and tightened six times. It will be given a seventh heating and tightening on the completed armature.

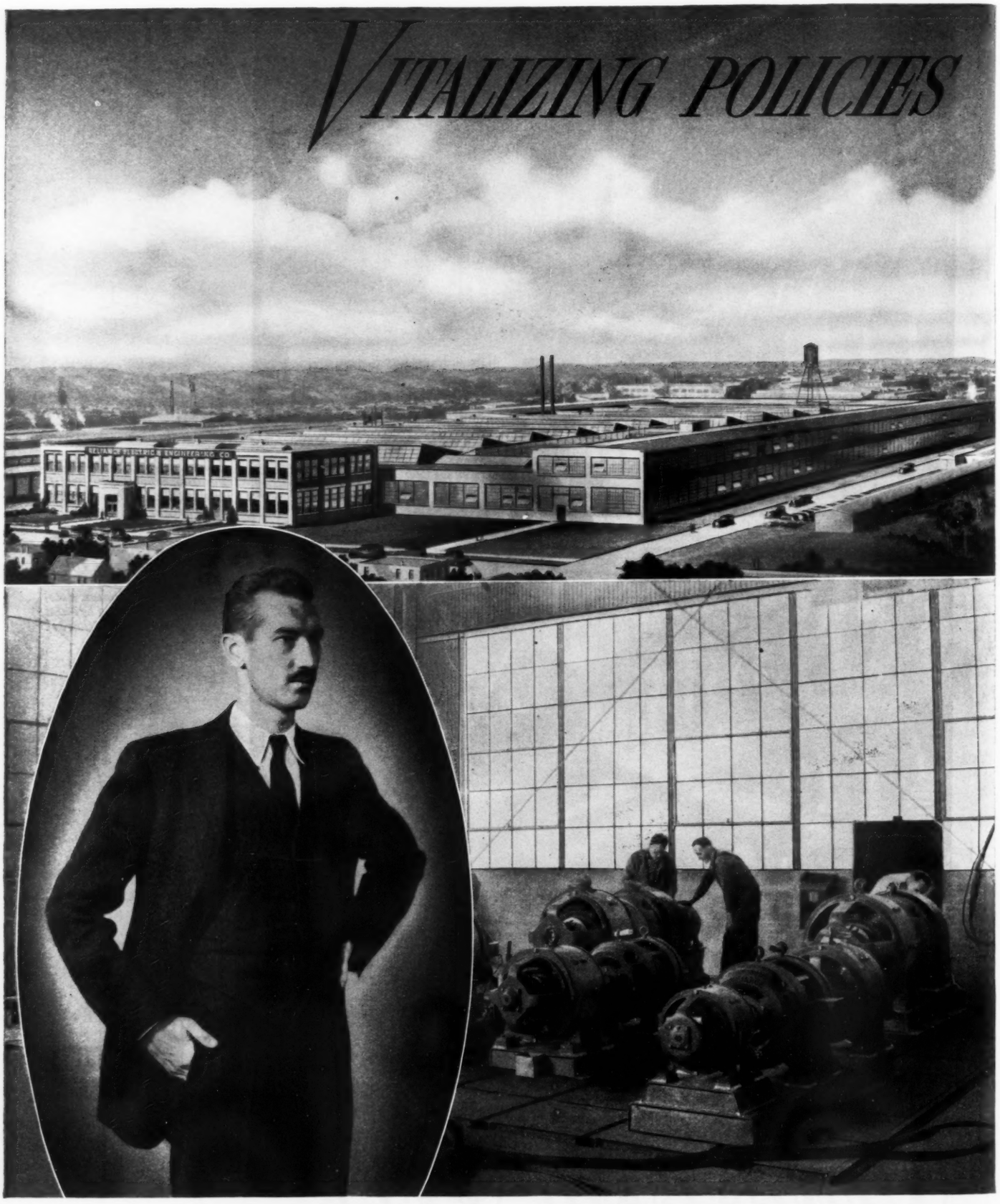
Above — This armature, when completed, will hide good quality in hundreds of vital spots. Appearance and electrical inspection will stamp it as a job well done. But only years as a dependable producer of power will prove how important is the contribution made to its excellent record by good materials and skilled hands.

RELIANCE A-C D-C MOTORS

Reliance Electric and Engineering Company • **1088 Ivanhoe Road, Cleveland**

Branches: Birmingham, Boston, Buffalo, Chicago, Cincinnati, Detroit, Greenville (S. C.), New York, Philadelphia, Pittsburgh

Representatives in Other Principal Cities



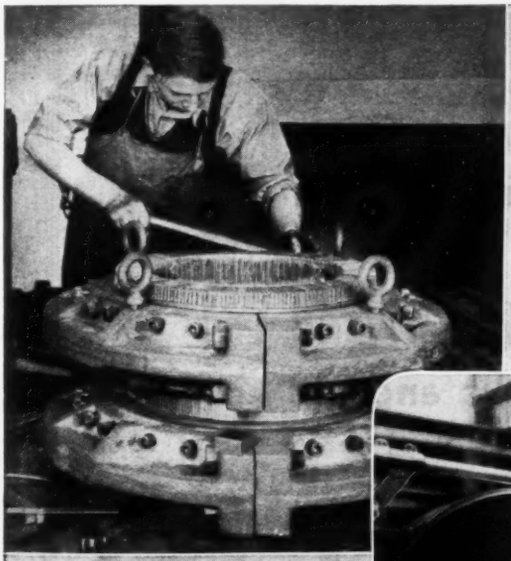
S. B. Taylor came into production work with a background of experience in both the electrical and mechanical design of Reliance Motors. As a consequence he supervises manufacturing with a keen appreciation of how sound design can be best translated into the finished motor.

through Understanding

We are glad to have our friends visit us because by doing so they get first-hand evidence that we have the essentials for creating a good product—a modern plant, efficient machinery and up-to-date methods. There's something else about the place that's not so tangible, but still is mighty important. It has to do with the men who build and supervise. » » » In the 31 years that we have been making motors, a clear understanding has developed all down the line about the following things . . That it's definitely a part of the Reliance plan to build motors that are unexcelled and to make sure they do all that is expected of them . . That Reliance is catering to plants where motors must do hard work, so that the best of workmanship is required to supplement liberal design and high-grade materials . . That each man contributes to promoting the Reliance reputation for top-notch quality and helpful service if he does his own job well and becomes an effectual team-mate when cooperation is needed.

S. B. Dayton

Works Manager,
Reliance Electric and Engineering Company



Above—Thoroughness is emphasized as an essential to quality in the construction of many Reliance parts. For example, to make certain of tightness, this commutator will be heated and tightened six times. It will be given a seventh heating and tightening on the completed armature.

Below — Grinding armature shafts to close tolerances is typical of the care taken to assure accurate fits and the interchangeability of parts for Reliance Motors. We are accustomed to pleasing people who are particular about such matters, especially as they concern the mounting of motors for direct drives.

Above — This armature, when completed, will hide good quality in hundreds of vital spots. Appearance and electrical inspection will stamp it as a job well done. But only years as a dependable producer of power will prove how important is the contribution made to its excellent record by good materials and skilled hands.

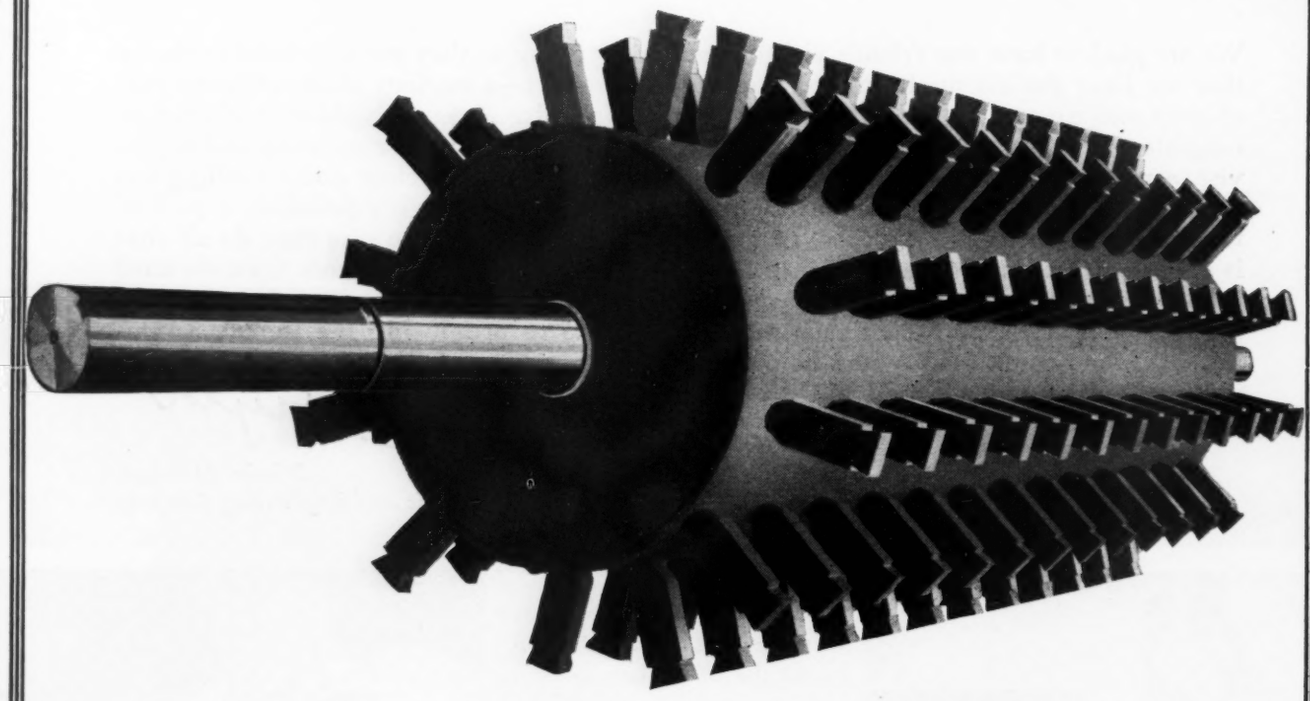
RELIANCE A-C D-C MOTORS

Reliance Electric and Engineering Company • 1088 Ivanhoe Road, Cleveland

Branches: Birmingham, Boston, Buffalo, Chicago, Cincinnati, Detroit, Greenville (S. C.), New York, Philadelphia, Pittsburgh

Representatives in Other Principal Cities

THE ALDRICH
MULTI-BLADE CYLINDER BEATER



Takes out more and dirtier motes than a blade beater.

Does not shatter motes and leaf, and therefore reduces the specks and pin trash in the laps.

These beaters advantageously replace blade beaters wherever used.

They are particularly good in the first sections of single process pickers.

AldricH MachinE

Greenwood, **WorkS** South Carolina

"SINCE MY LAST CALL ON THE ABOVE PLANT I FIND"

—*A Typical Beginning* of some 25,000 impartial reports by Socony-Vacuum Field Engineers...to guide us in refining oils suited to actual Plant conditions

How Socony-Vacuum Engineering Service can save money in your plant:

1. Curb losses that boost power consumption and costs.
2. Decrease maintenance.
3. Improve production results by greater machine efficiency.
4. Lower lubrication costs.
5. Help your men find ways to devise important economies.

TONIGHT—in hotels across the country—Socony-Vacuum Field Engineers are writing their reports!

News of what Gargoyle Lubricants did today *in service*.

News of new methods...problems.

These hard-boiled facts leave no loopholes. Gargoyle Lubricants must meet operating conditions!

Because they do—Socony-Vacuum "Correct Lubrication" has saved millions in 110 different industries. Improved production. Lowered power, maintenance and oil costs.

The advice of a Socony-Vacuum Engineer may result in surprising economies in your own plant. A word from you will bring him there.

SOCONY-VACUUM

CORRECT LUBRICATION

GARGOYLE Lubricants

SAVES MONEY FOR INDUSTRY

Read what 71 Years' Lubricating Experience...the Greatest in the Oil Business...can do for You. See Next Page.

THIS MARKETING POLICY MEANS "CORRECT LUBRICATION" FOR EVERY TYPE OF PLANT

INDUSTRY ALMOST ALWAYS FINDS that the controlled use of high-grade Gargoyle Lubricants pays for itself many times over and that they actually cost less to use than ordinary lubricants.

But, for such equipment as does not justify the highest-grade lubricants, Socony-Vacuum Engineers will always recommend a lower-priced lubricant when consistent with true economy.

Socony-Vacuum, with a complete line of products, can supply the lubricants best fitted for the requirements of the individual lubricating job as determined by specific operating conditions.

Socony-Vacuum Engineers bring you years of world-wide experience and direct cooperation with manufacturers of equipment. Lubrication Profit is the inevitable result.

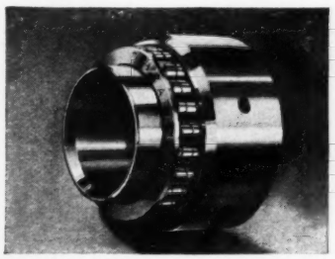
SEND FOR THE SOCONY-VACUUM REPRESENTATIVE: *The services of a trained Socony-Vacuum Engineer are available at all times in helping your men to solve lubrication problems.*

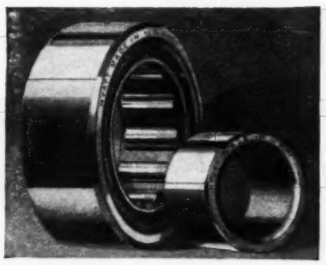
SOCONY-VACUUM OIL CO.
INCORPORATED

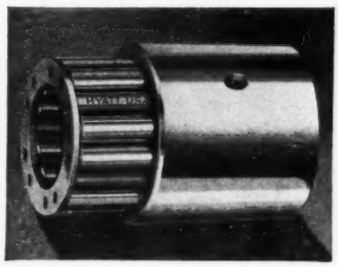
STANDARD OIL OF NEW YORK DIVISION · WHITE STAR DIVISION · LUBRITE DIVISION · WHITE EAGLE DIVISION
WADHAMS OIL COMPANY · MAGNOLIA PETROLEUM COMPANY · GENERAL PETROLEUM CORPORATION OF CALIFORNIA

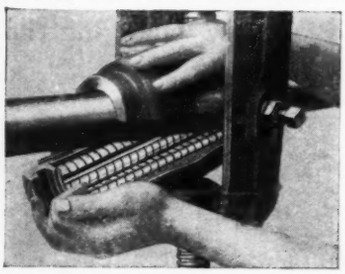
GARGOYLE Lubricants

Roller Bearing protection for all your Equipment









Illustrated above are the Hyatt Wound Type Roller Bearing, the Hyatt Hy-Load Solid Roller Radial Bearing, the Hyatt Junior Solid Roller Bearing and the Hyatt Lineshaft Roller Bearing. A Hyatt Roller Bearing for every need. Specify them by name when ordering equipment.

Rollers that roll with a minimum of friction.

Rollers that require practically no lubrication.

Rollers that are designed to absorb shocks.

Rollers that can last the life of the machine.

To cotton, silk, rayon and woolen looms—to preparatory equipment and finishing machines of all kinds—to every moving wheel or shaft in the mill—Hyatt Roller Bearings bring smoother operation and longer life.

The complete story of Hyatt advantages in textile machinery is told in our Bulletin T-M. Send for a copy if you want to learn how Hyatts can help you make more and better yarn or cloth at less cost. Hyatt Bearings Division, General Motors Corporation, Harrison, New Jersey.

HYATT

Roller Bearings

150 lb. SP—Fig. 1021-P "Ferrenewo"

200 lb. SP—Fig. 73-P Bronze "Renewo"

300 lb. SP—Fig. 16-P Bronze "Renewo"

300 lb. SP—Fig. 1690-P Screwed Yoke Bronze "Renewo"

150 lb. SP Fig. 1857-P All-Iron "Ferrenewo"

A Complete Line for Specific Pressure Conditions

The *Why* of Wider Seat Faces!

"NS5" Alloy Plug Type Seat and Disc

The greater area of the full plug width seating surface combined with the fine wearing properties of "NS5" Alloy retards wire drawing and promotes longer service life.

"NS5" Alloy seating material is of uniformly great hardness and retains its hardness at high temperatures; it will not gall or seize, and is highly resistant to corrosion.

An added economy feature is the interchangeability of seats and discs, whereby users of Lunkenheimer regular "Ferrenewo" and "Renewo" Valves, can convert them into plug type by simply changing the seats and discs.

Place a few of these valves in service in your plant and let them prove themselves under actual operating conditions.

Your Lunkenheimer distributor carries them in stock. Ask him for the new circular No. 559 or write us direct.

THE LUNKENHEIMER CO.
"QUALITY"
CINCINNATI, OHIO, U. S. A.
NEW YORK CHICAGO
BOSTON PHILADELPHIA
EXPORT DEPT. 318-322 HUDSON ST., NEW YORK

Buy QUALITY—Buy LUNKENHEIMER

102-88B-10

DEB-E-LITE

the DEBEVOISE PAINT for the TEXTILE INDUSTRY

For a Cleaner, Brighter Plant at a Lower Cost To You

YOU know how important paint is in textile mills like yours, to protect every kind of surface, wood, brick, cement, and plaster . . . inside and out.

But even more important to your pocket-book is the *kind* of paint you choose.

Inside, you need a paint specially processed to meet textile mill operating conditions; that provides well-diffused light, that goes on fast, covers a lot of territory, lasts longer and is easy to keep bright and clean.

That's the kind of paint you get in DEB-E-LITE, whether it be DEB-E-LITE flat, eggshell or gloss... for wood or plaster walls and ceilings and masonry surfaces as well.

For long lasting *outside* paints for mill buildings and mill villages, DEB-E-LITE is your best buy . . . *No. 610* for mill villages generally, *BQ EXTERIOR* for your most important buildings . . . and for special exposures, DEB-E-LITE Character White (also available in tints).

Whichever DEB-E-LITE you choose will give you fine service . . . because DEB-E-LITE Paints are made by a company that specializes in Industrial Paints . . . and *nothing else.*

And all DEB-E-LITE Paints are offered to you at the money-saving wholesale prices that only our direct-to-you sales policy makes possible.

Why not write for full data on DEB-E-LITE?

The DEBEVOISE Company

968 GRAND ST., BROOKLYN, N. Y.

MAINTENANCE PAINTS FOR ALL BRANCHES OF INDUSTRY

FREE

Write for your FREE copy of the Debevoise "Plant Maintenance Manual." This concise manual is a working handbook, not a sales portfolio. It covers every phase of paint selection and application in plant, machinery and equipment maintenance.

THE H&B HIGH-DRAFT ROVING FRAME

• • • WITH PATENTED SCROLL CONDENSER

A ONE OR TWO PROCESS MACHINE FOR DRAFTS UP TO 30

INSTALLED IN OVER 50 MILLS SINCE APRIL 1st

This machine is designed to take a 60 grain sliver from the drawing frame and draft up to 30. The table herewith shows a range of drafts producing from 1.25 to 3.50 hank roving in one operation. This roving may then be spun on regular frames or long draft frames, depending upon the count of yarn required.

Used in conjunction with a 3-roll slubber to meet an occasional demand for greater reductions than can be obtained in one operation, two operations can be employed for producing 7.00 hank and finer roving.

The number of rollers (4 or 5) on the HIGH DRAFT Roving Frame is determined by the drafting requirements, the five roller system being illustrated herewith.

The most characteristic feature of this new HIGH-DRAFT roving system is our PATENTED Scroll Condenser--a very simple, but unique and extremely effective device. As the drafted cotton leaves the third roller in a thin web the Scroll Condenser folds the thinner edges over toward the thicker center which results in an even strand, but does not crowd the fibers. At the same time a half turn of false twist lays all the loose fibers together and gives the sliver strength and body for the next drafting operation.

The Scroll Condenser is made of Bakelite which eliminates all static electricity.

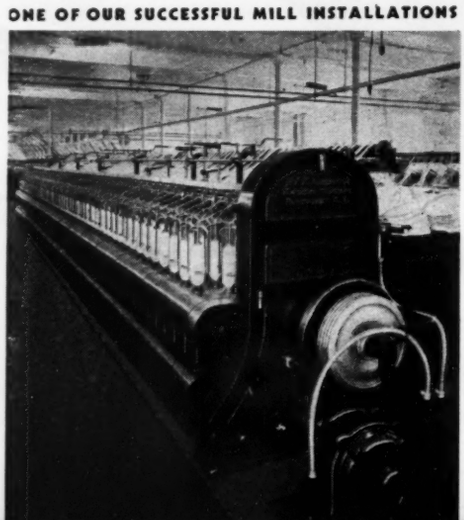
The H & B HIGH-DRAFT Roving Frame is the result of several years of study in our experimental department and is now successfully operating in more than 50 mills.

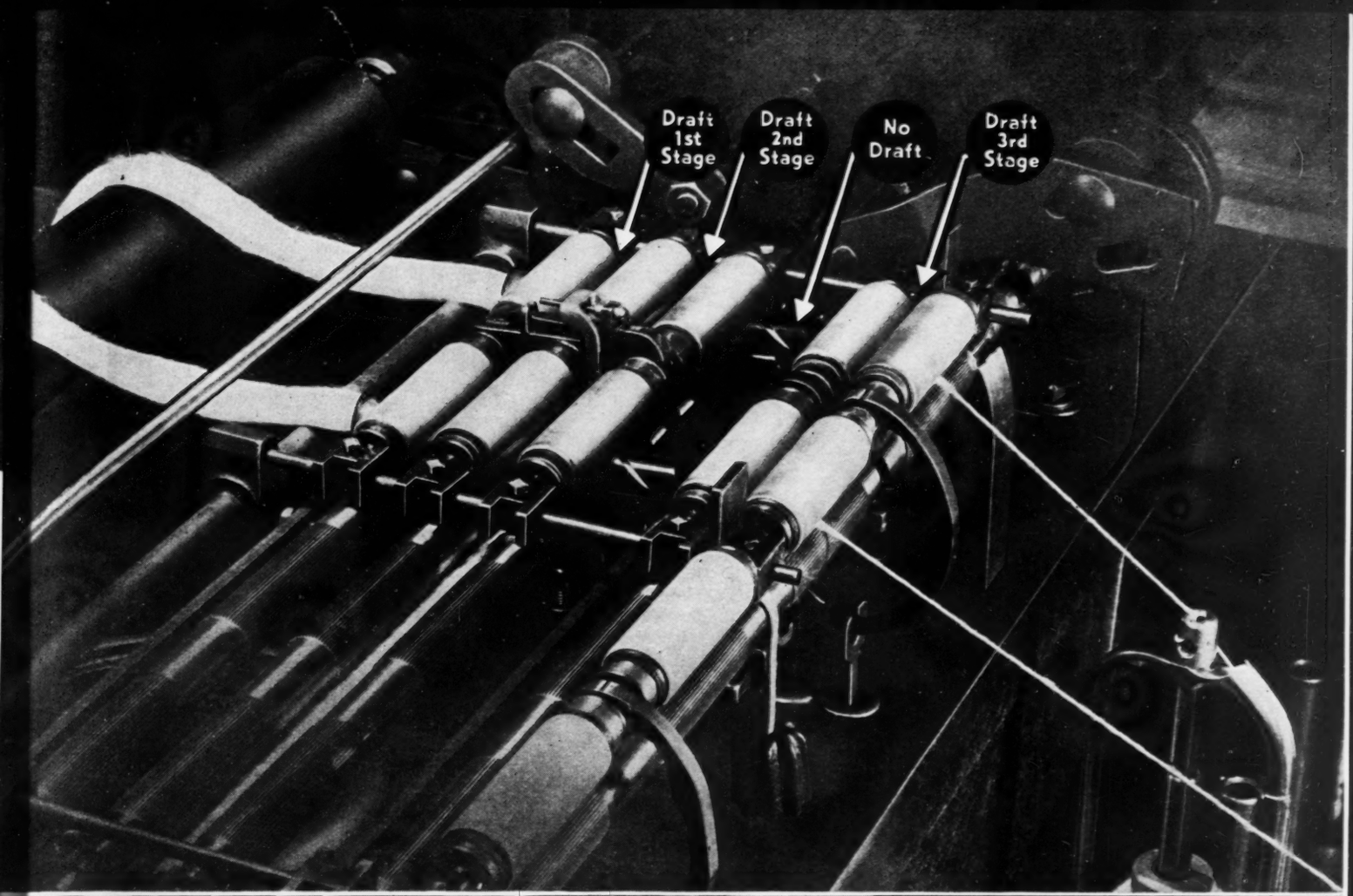
Further information on request.

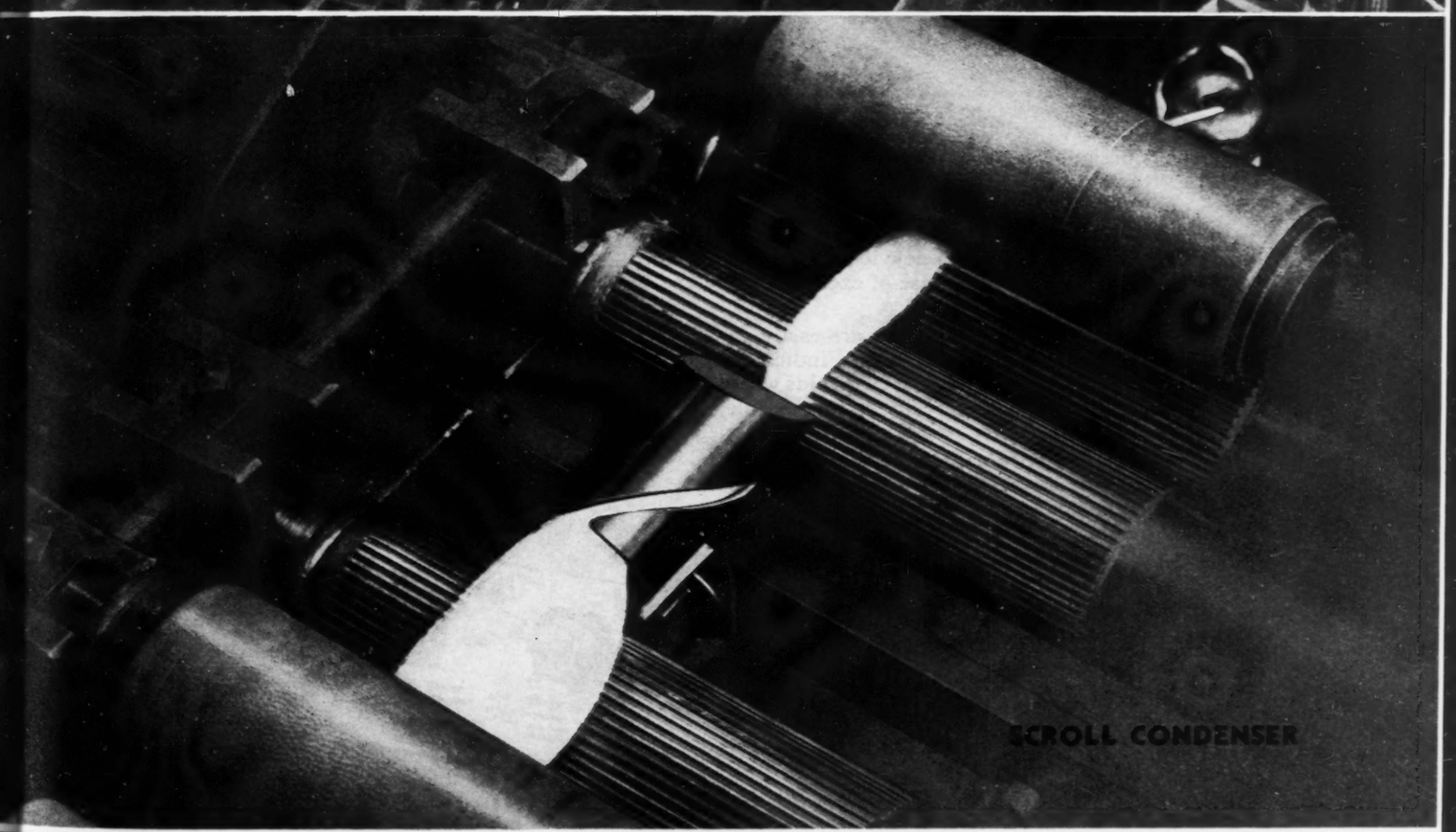
RANGE OF DRAFTS

Drawing Sliver From Cans	Hank Sliver	Draft	Hank Roving
One Process Roving on a 10" x 5" frame with Scroll Condenser			
60 grain	.139	9.00	1.25
60 grain	.139	10.80	1.50
One Process Roving on a 9" x 4½" frame with Scroll Condenser			
60 grain	.139	12.50	1.75
60 grain	.139	14.50	2.00
One Process Roving on an 8" x 4" frame with Scroll Condenser			
60 grain	.139	18.00	2.50
60 grain	.139	22.00	3.00
60 grain	.139	25.00	3.50

ONE OF OUR SUCCESSFUL MILL INSTALLATIONS







H&B AMERICAN MACHINE COMPANY

• • TEXTILE MILL MACHINERY • •

PLANT AT PAWTUCKET, RHODE ISLAND

BOSTON OFFICE:
161 DEVONSHIRE STREET

ATLANTA OFFICE:
813 CITIZENS AND SOUTHERN NATIONAL BANK BUILDING

CHARLOTTE OFFICE:
1201-3 JOHNSTON BUILDING

2
FOR PROFITABLE WEAVING
1
MODEL X HIGH SPEED LOOMS
plus
WESTINGHOUSE DRIVE
WESTINGHOUSE LOOM MOTORS have extra strength, high efficiency, and long life bearings to withstand the strain of high-speed loom operation. Bearings are easily accessible for oiling.
1
WK-18 MOTOR STARTER protects the motor against dangerous overloads. It is safe and positive under conditions of high humidity.
2
LINT-FREE MOTORS—With large air passages, glass smooth windings, and tapered rotor vanes.
"DE-ION" LINESTARTERS—Most important forward step in the entire history of motor control equipment.
NOFUZE "DE-ION" CIRCUIT BREAKERS—eliminate fuse outages, resultant man and maching-hour losses.

Draper Model X Loom driven by Westinghouse
1 hp. motor with motor-mounted WK Starter.

Modern looms designed for today's high speed operation insure profits in your weaving room. And Westinghouse motors and starters matched to the looms make these profits doubly sure. Here are the reasons:

Plenty of Power for breaking in new looms.

Low power consumption because of exceptionally high efficiency.

Low Maintenance because oil fillers are easily accessible—overflow drain gives immediate indication that sufficient oil has been supplied . . . avoids waste of lubricant. Rotors are practically indestructible, and bearings are designed for exceptionally long life.

Effective Overload Protection because the famous "Motor Watchman" in the WK-18 starter provides certain protection against dangerous overloads, yet permits safe overloads without interruption.

Specify Westinghouse drive when you install new looms such as Draper Models X, C, XK, and XL and C & K models S3, S4, C3, C4, W2 and W3. J 03018

Westinghouse Elec. & Mfg. Co., Lima, Ohio

UNDIVIDED RESPONSIBILITY MULTIPLIES THE VALUE of WESTINGHOUSE SERVICE

W WESTINGHOUSE ELECTRIC

FROM INCOMING LINE TO DRIVEN MACHINE

Specify Westinghouse

Overcoming Obstacles

In textile sizing, printing and finishing troublesome problems often arise. In such cases we can be of real assistance.

In addition to starches, dextrines and gums of uniformly high quality, made to suit your special requirements, we offer the services of our five research laboratories where experienced textile chemists study your problems, augmented by a staff of field experts to assist you in obtaining maximum results.

If you need us—call us.

STEIN, HALL & COMPANY, INC.
285 Madison Avenue New York City

STARCHES, DEXTRINES AND GUMS FOR

SIZING · PRINTING · FINISHING

Burroughs

NEW FANFOLD MACHINE

There's Less for the Operator to Do!

Users of fanfold machines are amazed at the simple, automatic action of this remarkable new Burroughs Fanfold Machine.

They quickly realize that it cannot waste costly time—that it does not waste physical effort.

See for yourself how it will enable your operators to sustain high-speed production with much less effort, thereby lowering your costs of handling fanfold or continuous forms of any kind. Ask for a demonstration.

MAIL THIS COUPON!

BURROUGHS ADDING MACHINE COMPANY
6621 Second Blvd., Detroit, Mich.
I should like to know more about this new Burroughs Fanfold Machine.
NAME_____
ADDRESS_____

JUST TOUCH ONE KEY—

Carriage Opens ***Automatically!***

Forms are Released ***Automatically!***

Carriage Returns ***Automatically!***

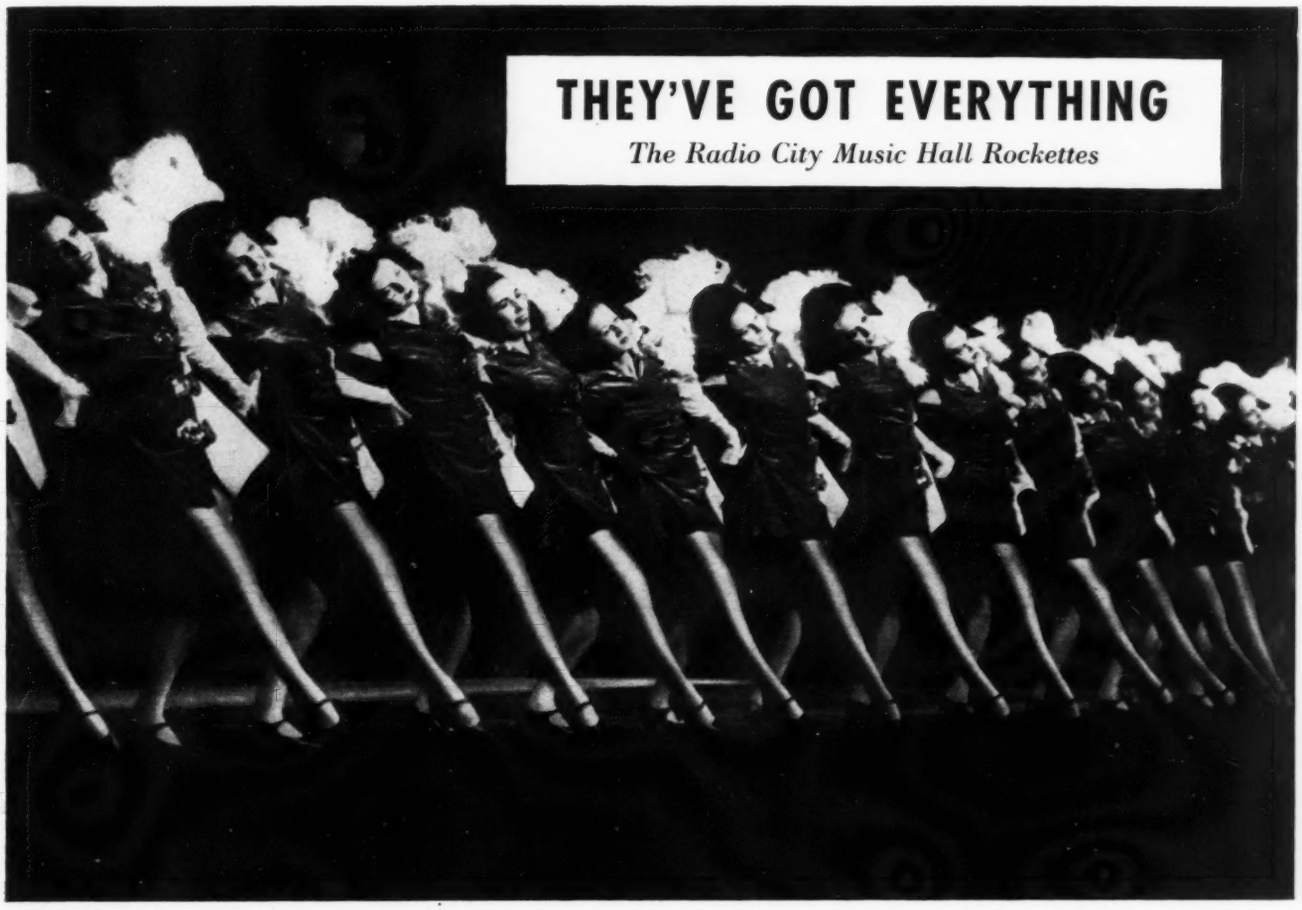
Carbons Shift ***Automatically!***

Then—as the operator removes the completed set of forms—

New Forms Lock in Place ***Automatically!***

Carriage Closes ***Automatically!***

THE MACHINE —*NOT THE OPERATOR*— DOES MOST OF THE WORK



AND SO HAVE WE...

the hosiery finisher's every need

BOIL-OFF OIL NO. 1 CONC. and Boil-off Oil S-609 (non-silicate)—used in our three-process (degumming, dyeing and finishing) method—afford more level dye shades and better penetration of the dyestuff at toe and heel seams. These oils also emulsify the silk gum, give a more rapid and thorough boil-off and assure greater tensile strength.

PENETRATOR W-888 is a very potent and almost instantaneous wetting-out agent.

MONOPOLE OIL imparts unsurpassed softness and handle to hosiery, produces well-penetrated dyeings, and serves as a good finishing agent.

WOLFCO SOLVENT, for scouring rayon or cotton, gives a good clean ground for dyeing light shades uniformly.

ELEMITE is effectively used for rayon or silk, where only hard water is available.

HOSIERY FINISH NO. 300 and Hosiery Finish B are finishing agents which give body and stiffness and make hose lie flat in box.

DELUSTRE W-716 delustres without stiffening and will not dust off.

SPLASHPROOF W-559—in a single bath—makes all fibres water shedding or water repellent.

STRIPPER Y and Hydrosulfite of Soda are special stripping agents for use on all fibres and particularly for stripping silk at low temperatures.

JACQUES WOLF & CO.

MANUFACTURING CHEMISTS AND IMPORTERS . . . PASSAIC, NEW JERSEY

Warehouses: **Providence, R.I.; Philadelphia, Pa.; Utica, N.Y.; Chicago, Ill.; Greenville, S. C.; Chattanooga, Tenn.**

Another specific example of economy and increased efficiency effected by Taylor Completely Engineered Automatic Temperature Control in the Slasher Room

HERE is a mill producing approximately 3,000,000 pounds of print cloth a year in 48x40, 64x60 and 68x72 construction. It operates four slashers.

In an effort to reduce production costs further, increase weave room efficiency and assure maintenance of uniform weight and quality of its cloth, executives decided to investigate automatic slasher control. They called in a Taylor representative because they knew of the successful operation of Taylor Systems of Temperature Control in slashing rooms of other mills.

Taylor engineers made an exhaustive study of the entire slashing process. They recommended a unified system of temperature control and installed it as an integral part of the slasher. THE MILL SAVED $12,000 IN A YEAR AS A RESULT OF INCREASED WEAVE ROOM EFFICIENCY AND COTTON SAVINGS ALONE.

As a result of the Taylor survey the size concentration was decreased. BUT the solids content of the yarn (or the size deposit on the yarn) was increased 1.4% on the average.

A 20% decrease in loom stoppages resulted in a 1% increase in weave room efficiency. This accounted for $8,800 of the total saving.

$4,000 COTTON SAVING

The Taylor System of Control was responsible for the saving of an equivalent of 58 bales of cotton during the year. At the then market price this amounted to nearly $4,000. No figure was available on the saving on coal used, but it was considerable and should be added to the total saving. The Taylor System of Automatic Slasher Control much more than paid for itself in this first year and paved the way for increased profits.

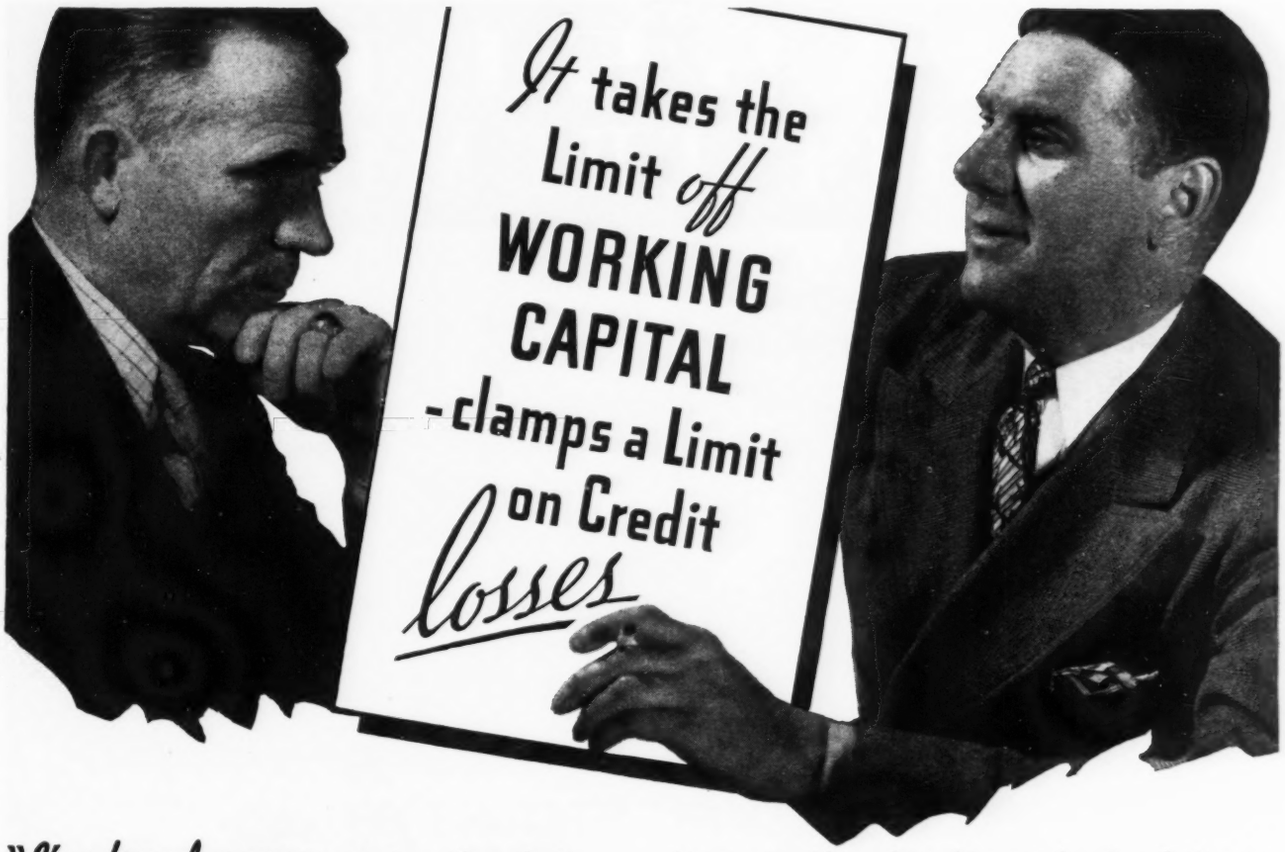
There are plenty of textile mills in the United States today that can tell stories of large economies, faster production of more uniform finished goods with corresponding reduction of "seconds," and larger net profits as results of the installation of Taylor Slashing Control. Taylor engineers today have the experience of nearly fifteen years in the designing and installing of these systems. Their success is the result of applying this experience to the specific requirements of each individual mill.

Whether the slashing room is equipped with the standard two-cylinder slasher or the new Saco-Lowell High Speed Slasher, Taylor Control puts slashing operation on a new low-cost basis and adds greatly to the uniform conditioning of the yarn that goes into finished goods. Ask a Taylor Representative for full information on Taylor Systems of Slasher Control and its application to your mill, or write direct to Taylor Instrument Companies, Rochester, N. Y. Plant also in Toronto, Canada. Manufacturers in Great Britain—Short & Mason, Ltd., London, England.

Taylor

Indicating · Recording · Controlling

TEMPERATURE, PRESSURE, FLOW *and* LEVEL INSTRUMENTS



"I've found a way to stop a serious drain on my profits and re-employ the money that used to go vacationing at my expense . . . money that was tied up in accounts receivable. It works for me all the time now.

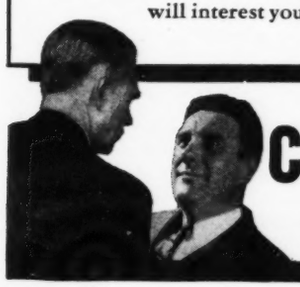
"Doubtless, you've heard of Commercial Credit Company's open account financing plan? So had I. I recognized its many advantages, and knew that it was being widely used by many flourishing business concerns, but I had one mental objection to it I couldn't overcome. Let me explain.

"I'm as modern and progressive as anyone in production and sales methods. But in matters of credit and finance there's a conservative streak in me as wide and as deep as the Grand Canyon. I wouldn't count my chickens while they're still eggs. Neither would I discount my receivables and *use my own money profitably in my own business.* One of my large accounts might fail. Then I'd be on the spot. Invariably, I would decide to wait for my money.

"Then Commercial Credit Company introduced its new LIMITED LOSS clause and changed the whole picture for me. Briefly, here's just what it means. I can now cash in on as small or as large a part of my receivables as necessary, without any red tape or delay. I can protect myself against any credit loss beyond my normal bad debts. The margin between what it costs to do this, and what the use of my capital nets me in discounts saved and new profits earned, is far in my favor. My customers get their regular terms—pay in the regular way.

"I'm still a conservative. Nothing is different except that I now have less financial worry, more liquid capital and a more thriving business."

★ Commercial Credit Company's modern industrial financing is available to you on terms that enable you to liquify your receivables and re-employ the money profitably and safely. Investigate the new LIMITED LOSS clause introduced exclusively by Commercial Credit Company. It is a protective feature that will interest you. Full details on request . . no obligation.



COMMERCIAL CREDIT COMPANY

NEW YORK CHICAGO **BALTIMORE** PORTLAND, ORE. SAN FRANCISCO

GRASSELLI
TEXTILE CHEMICALS

Acetic Acid	Lactic Acid
Acetate of Lead	Muriatic Acid
Alums	Nitric Acid
Aqua Ammonia	Oxalic Acid
Barium Chloride	Phosphate of Soda
Bi-Chromate of Soda	Silicate of Soda
Bi-Sulphite of Soda	Sulphate of Soda
Caustic Soda	Sulphite of Soda
Chloride of Zinc	Sulphate of Alumina
Epsom Salts	Sulphuric Acid
Glauber's Salt	Tri-Sodium Phosphate

Formic acid

improves dyeing operations; colors brighter in shade, always level, even in cross dyeing. It's the fabrics of brilliant, clear colors that get the call in present day modern styling.

GRASSELLI FORMIC ACID will not tender the most delicate fabrics, yet has the efficient strength to almost completely exhaust the dye-bath. Being both an acid and an aldehyde, it produces results not obtainable with other acids.

Available in 120 lb. carboys from all branches.

E. I. DU PONT DE NEMOURS & COMPANY, INC.

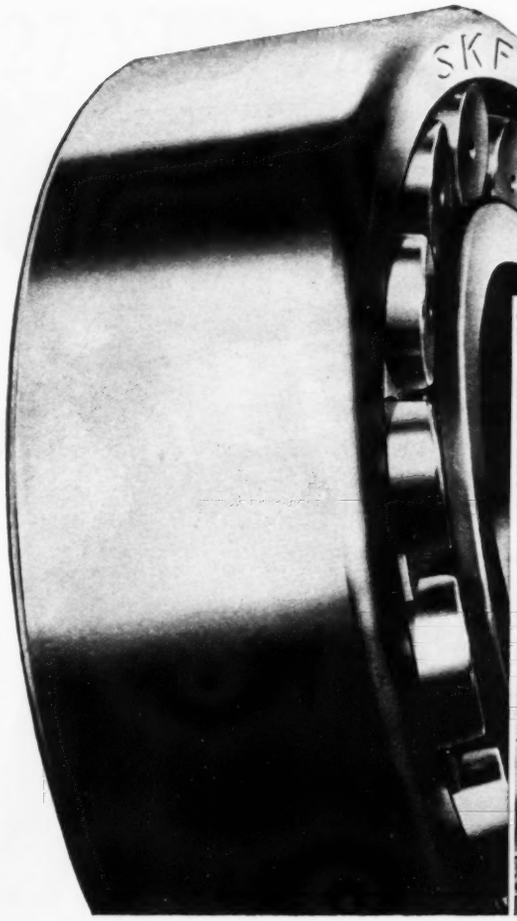
DU PONT — GRASSELLI CHEMICALS DEPARTMENT — GRASSELLI

WILMINGTON, DELAWARE

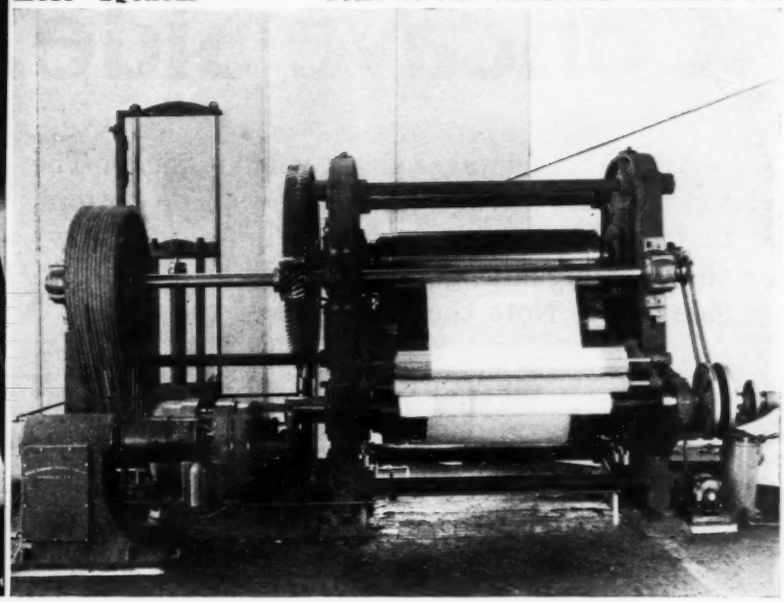
Albany Birmingham Boston Charlotte Chicago Cincinnati Cleveland Detroit Milwaukee New Haven New Orleans New York Philadelphia Pittsburgh St. Louis St. Paul

San Francisco, 584 Mission St. Los Angeles, 2260 E. 15th St.

Represented in Canada by CANADIAN INDUSTRIES, LTD., General Chemicals Division, Montreal and Toronto



SKF-EQUIPPED BUILT BY VAN VLAANDEREN MACHINE CO.



One of the largest textile calenders relies on **SKF**

FOR BEARING STAMINA

- This new 80-ton Hydraulic Three-Roll Calender—one of the largest of its kind—has everything to give untroubled performance for years to come.

Naturally, Van Vlaanderen selected SKF Spherical Roller Bearings for each end of the rolls . . . defeated heat conditions by lubricating the bearings with a circulating oil system . . . installed both SKF Bearings and Pillow Blocks on the drive.

As a result, there's long life, full load-carrying capacity and reliability united with minimum power, maintenance and lubrication costs. Next time *you* buy bearings, remember this: There are many good bearings, but only one SKF.

3966

SKF INDUSTRIES, INC., FRONT ST. & ERIE AVE., PHILA., PA.

MORE THAN
1200
TYPES AND SIZES
Industry comes to SKF for unbiased bearing counsel because SKF makes practically all types of anti-friction bearings.

SKF

BALL AND ROLLER BEARINGS

When a V-Belt Bends

IT Changes SHAPE

That's the REASON for the

Concave Side.

Any V-belt **changes shape** when it bends. The top is under tension and **narrows.** The bottom, under compression, **widens.** Figure 1 (below) shows the resulting shape-change in a straight-sided belt. Note the out-bulge of the sides.

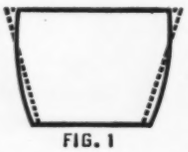
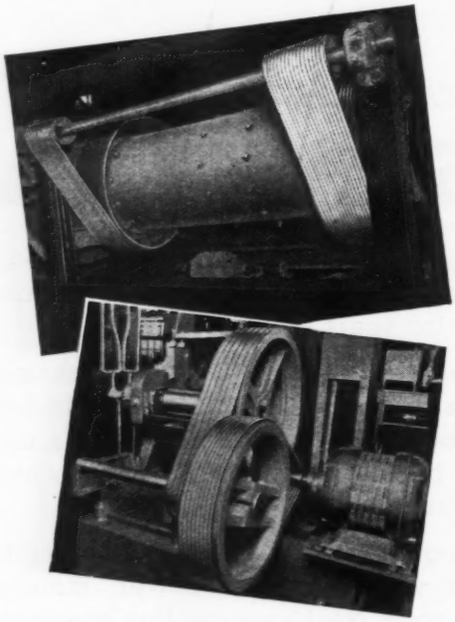


FIG. 1

WHAT HAPPENS WHEN A V-BELT **BENDS**

FIG. 2



Now look at figure 2. The same change of shape merely **straightens** the concave side, producing a contour that **precisely** fits the sheave groove.

Two big economies result: (1) No out-bulge at the side means uniform wear—**longer life!** (2) Full side-wall grip on the pulley holds heavier loads without slippage—a big increase in drive efficiency—saving belt wear and also saving **power!**

The Gates Vulco Rope is the only V-Belt built with the patented concave side.

Engineering Offices and Stocks in All Large Industrial Centers

THE GATES RUBBER COMPANY

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Terminal Building
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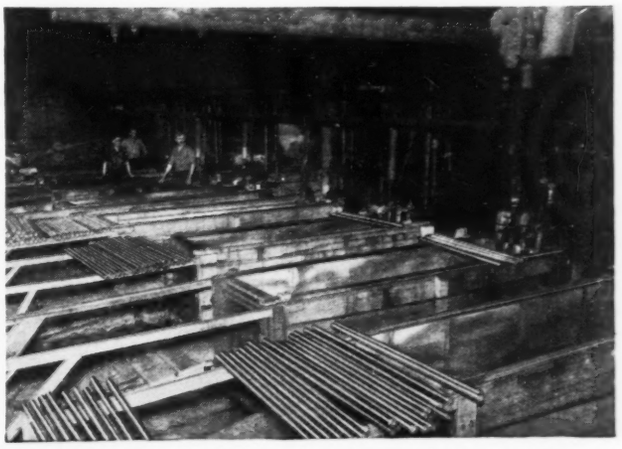
GATES VULCO ROPE DRIVES

27 Years in the Dyehouse . . . yet far from "Dead"



General interior plant view of dyehouse at the plant of the Friedman-Blau-Farber Co., Cleveland. All tanks are equipped with Monel linings. Monel lining in the first tank shown in the foreground was installed originally in 1910. It outlasted one wood tank and was used again as lining for a new wood tank a few years ago. This lining is as serviceable now as when originally installed. Shown also in the photo are several batches of Monel dye sticks made of 1¾" dia. x .049" wall x 57" long welded Monel tubing. The dye sticks have been in use since 1928 and are also still as good as new.

This long-lived Monel lining looks good for many more years of service

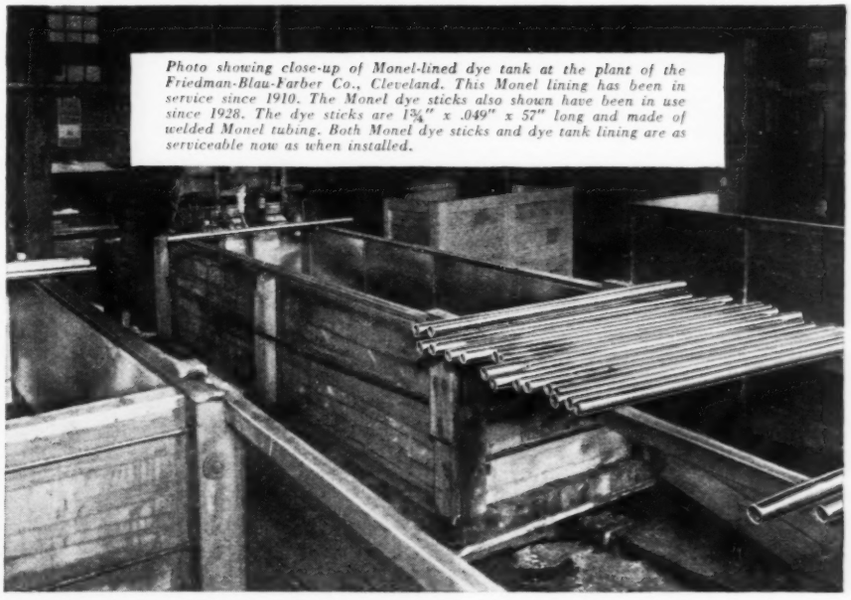


Photo showing close-up of Monel-lined dye tank at the plant of the Friedman-Blau-Farber Co., Cleveland. This Monel lining has been in service since 1910. The Monel dye sticks also shown have been in use since 1928. The dye sticks are 1¾" x .049" x 57" long and made of welded Monel tubing. Both Monel dye sticks and dye tank lining are as serviceable now as when installed.

DYE tanks come and dye tanks go, but Monel* linings go on forever—it would seem: For Friedman-Blau-Farber Company of Cleveland installed their first Monel lining in a wooden dye tank twenty-seven years ago. Now they're using it in a second tank. And as far as anyone can see, this corrosion-resistant metal is still as strong, tough and clean as ever—and good for another quarter century.

Do Friedman-Blau-Farber appreciate Monel? The facts speak for themselves: Since the first installation in 1910, Friedman-Blau-Farber have installed not only additional Monel dye tanks, but a Monel-equipped Giles skein dyeing machine, and Monel dye sticks, utensils and accessories as well.

Why all this Monel? Because of its lasting strength and long life? Partly, but not entirely. For in textile processing, Friedman-Blau-Farber use acid—also direct, basic and vat dyestuffs. So they save with Monel because:

Monel stoutly resists corrosion from dye liquors, and never rusts. It keeps its smooth surface—protects fine fabrics. Further, Monel does not cause off-color and, being easy to clean, makes possible quick changes—even from dark colors to light.

Use Monel, the standard dyehouse metal, and you have durable, trouble-free equipment that's good for years of service—years of *time, labor and money-saving service:* Write for further information on Monel. Address:

THE INTERNATIONAL NICKEL COMPANY, INC.
67 WALL STREET NEW YORK, N. Y.

INCO MONEL

*Monel is a registered trade-mark applied to an alloy containing approximately two-thirds Nickel and one-third copper. This alloy is mined, smelted, refined, rolled and marketed solely by International Nickel.

MONEL

COLOR AND SHADE ARE CHECKED

with daylight fidelity

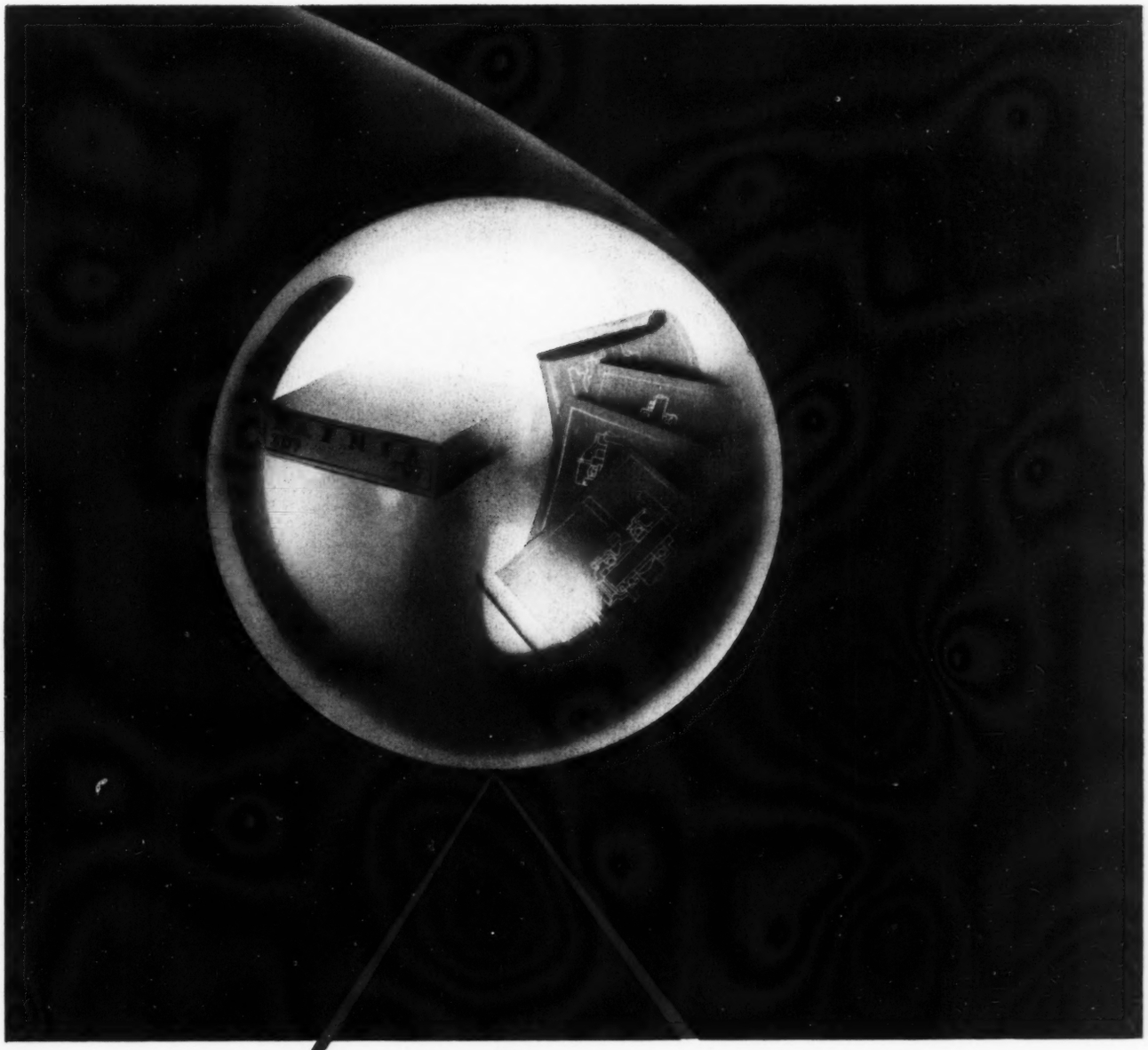
●In this modern air-conditioned inspection room of a large hosiery company engineered lighting plays an important role. Cooper Hewitt incandescent lighting assures restful seeing conditions for this critical visual task. Moreover, color and shade are checked with daylight fidelity under these "24-hour skylights."

The detail-revealing light of mercury vapor is the preferred light for textile companies everywhere. The new Cooper Hewitt lamps hang horizontally to give the best distribution of soft, non-fatiguing light. Important, too, is the fact that this productive light is now produced at 22% less cost.

By adding incandescent lamps to the mercury within the fixture lighting is obtained that closely resembles daylight values—for operations that require perception of color. Cooper Hewitt lighting . . . engineered to fit the job . . . is your assurance of the most profitable lighting system . . . General Electric Vapor Lamp Company, 853 Adams Street, Hoboken, New Jersey.

GENERAL ELECTRIC VAPOR LAMP COMPANY

855C



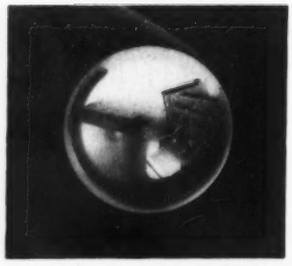
Balance in Production

The balance of Fafnir production between standard and specialized ball bearings results in important advantages. Because so wide a range of types and sizes are standard items in the Fafnir line, engineering and production of specialized bearings can be limited to those where a definite departure from stock material is absolutely necessary.

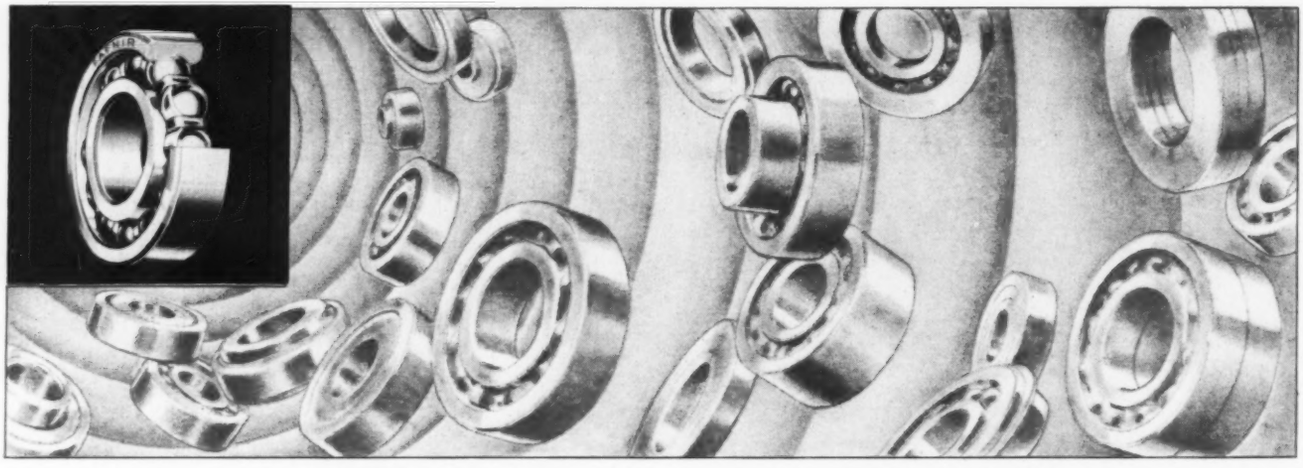
Yet, when required, these specialized bearings are more efficiently produced because of Fafnir's extensive experience with *all* types. That is why Fafnir engineering and production staffs are better able to handle all customers' demands for specialized applications. And that is how Fafnir brings down costs and speeds up service on specialized bearings.

FAFNIR BALL BEARINGS

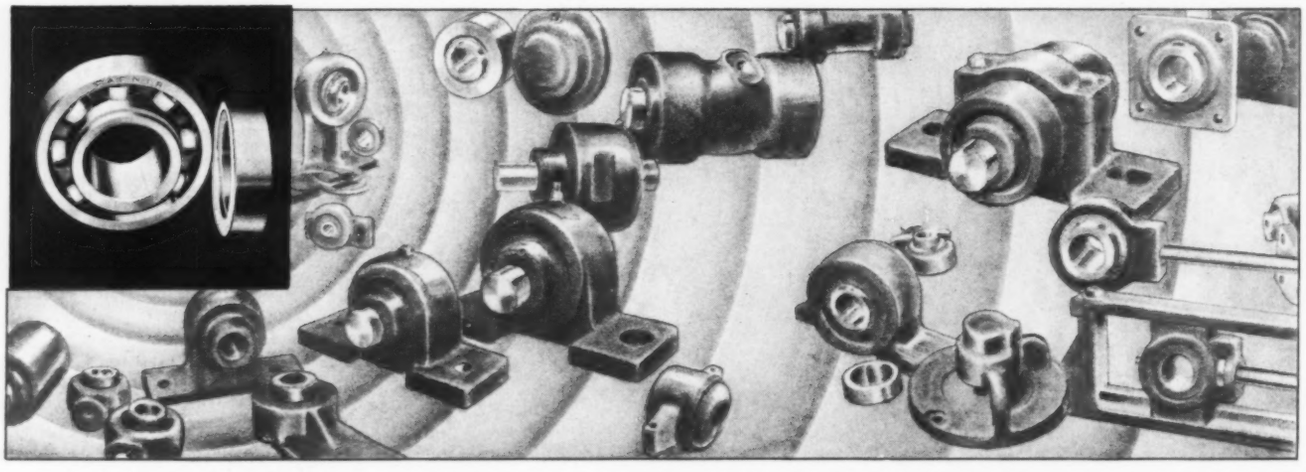
THE BALANCED LINE . . . MOST COMPLETE IN AMERICA



"STANDARD" AND "SPECIALIZED" ARE *Sisters Under the Skin*



The headlong pace of to-day's industrial expansion has resulted time and again in a specialized bearing development from Fafnir today becoming the standard of the industry tomorrow. From its two basic Radial and Wide Inner Ring Bearing types, Fafnir has pioneered hundreds of specialized bearings which, now in regular pro-

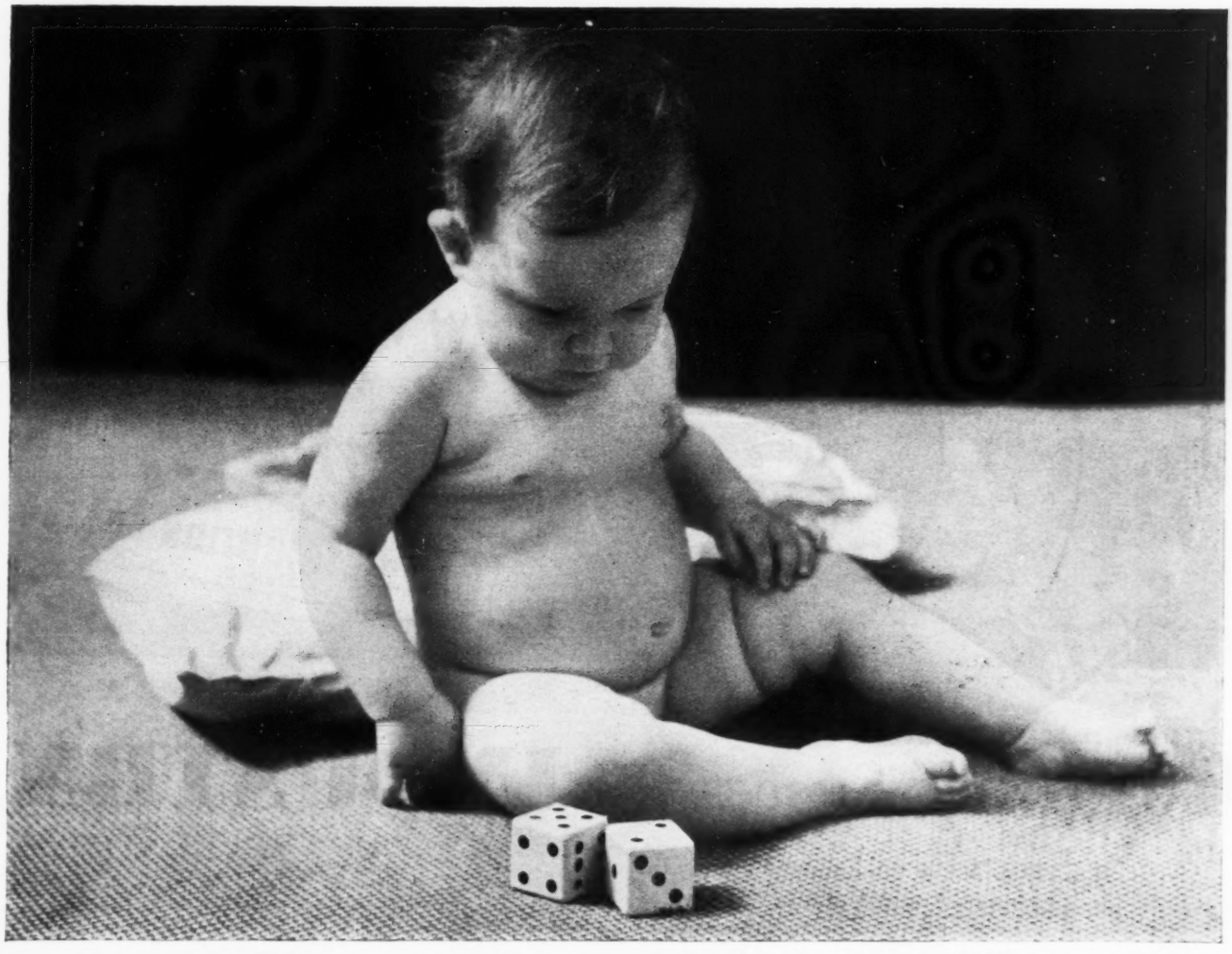


duction, have extended the range of Fafnir types and sizes into the most complete line in America. Every single one of these pioneering jobs has broadened Fafnir's experience—added to Fafnir's ability to pioneer further as industry reaches into newer fields—so that to-day, Fafnir offers to standard bearing users *the most complete line;* and to those whose demands are specialized, *the most complete store of experience,* resulting from building that line. The Fafnir Bearing Company, New Britain, Conn.

Send for
Engineering Manual No. 35

FAFNIR BALL BEARINGS

THE BALANCED LINE . . . MOST COMPLETE IN AMERICA

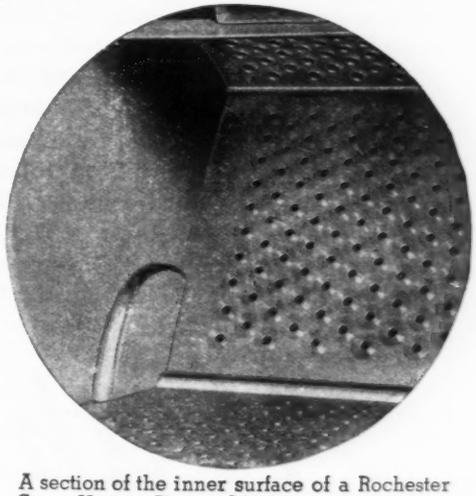


A FINISH AS SMOOTH AS A BABY'S SKIN

ELIMINATES THE *Gamble* IN DYEING

Rivalling the baby's petal-soft skin in smoothness is the hand-honed interior finish of a Rochester Super Hosiery Dyeing Machine. Every burr, every snag has been carefully and painstakingly removed by expert hand honing. The inside surface of the Monel Metal Cylinder has been carefully ground to a finish "as smooth as silk."

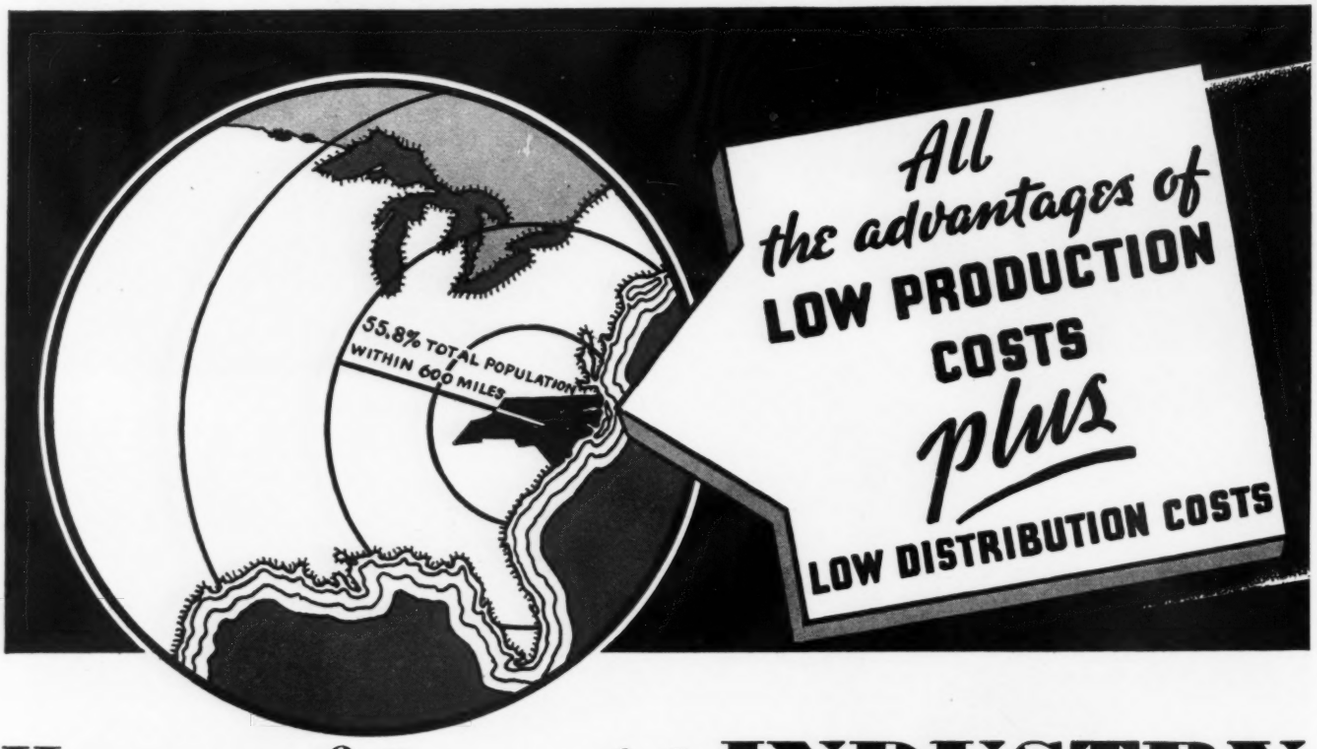
That is why hosiery dyed in a Rochester Super Hosiery Dyeing Machine is safer. Even the sheerest of chiffon emerges unharmed, as perfect as it entered. A Rochester Super Dyer pays for itself in the elimination of rejects and seconds. Write for complete information to Rochester Engineering & Centrifugal Corp., 106 Buffalo Road, Rochester, N. Y.



A section of the inner surface of a Rochester Super Hosiery Dyeing Machine cylinder. Note the smooth "Silk Finish."

ROCHESTER ENGINEERING & CENTRIFUGAL CORP.

OUTSIDE THE CONGESTED AREAS—BUT CLOSE TO THE RICHEST MARKETS



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NORTH CAROLINA is the home of successful industry because here are all the advantages of low cost production plus low distribution costs. Within a 600-mile radius is 55.8% of the country's population. Workers, 99% native-born, are intelligent, friendly, and co-operative. The tax structure and State laws are constructive to business. Raw material supplies are convenient. Ample economical power. Transportation facilities include one of the finest highway systems in the country, 46 railroads, ocean ports. The year 'round moderate climate reduces capital investment, and makes lower production costs possible. Manufacturing in North Carolina is highly diversified and reaches a total of 1¼ billion dollars annually. Facts relating to your business will be supplied by an industrial engineer. Write Industrial Division, Department of Conservation & Development, Room 17, Raleigh, N. C.

North CAROLINA

HOME OF SUCCESSFUL INDUSTRY

From every Angle

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●Looked at from the angle of a catalog for industry the Crane No. 52 Catalog lists, describes, illustrates and prices more than 38,000 separate valve and fitting items covering practically every normal requirement of modern industry.

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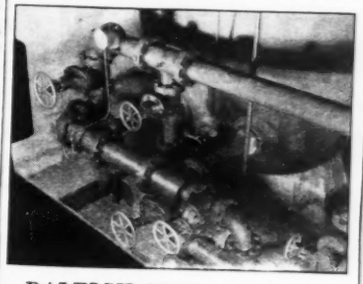
VALVES, FITTINGS, FABRICATED PIPE, PUMPS, PLUMBING AND HEATING MATERIAL

plied in the next few days.

FROM THE TEXTILE ANGLE FOR INSTANCE



RALEIGH, N. C., Oct. 20—You do not have to go beyond the covers of your Crane No. 52 Catalog in order to get the valves you need for every phase of a textile mill operation, whether it is for cotton, wool, silk, rayon, knit goods or for processing.

Turn to the Index in the front part of your catalog and you will find an array of valves and fittings that will take care of your needs whether they are for service lines (heating, sprinkling, power, humidifying, water, gas or air) or for process piping for slashers or for dyeing, bleaching and finishing.

There are nine Index sheets, closely printed on both sides which list CranEquipment in so many different ways that almost any clue will lead you directly to the right valve for the particular need. You can start with the service, the type of valve, the metal or metals which you want in its various parts—and you are easily and quickly directed to a Crane product that is just what you want.

Let your Crane No. 52 Catalog be the key to piping satisfaction.

For Sale or Lease on Terms

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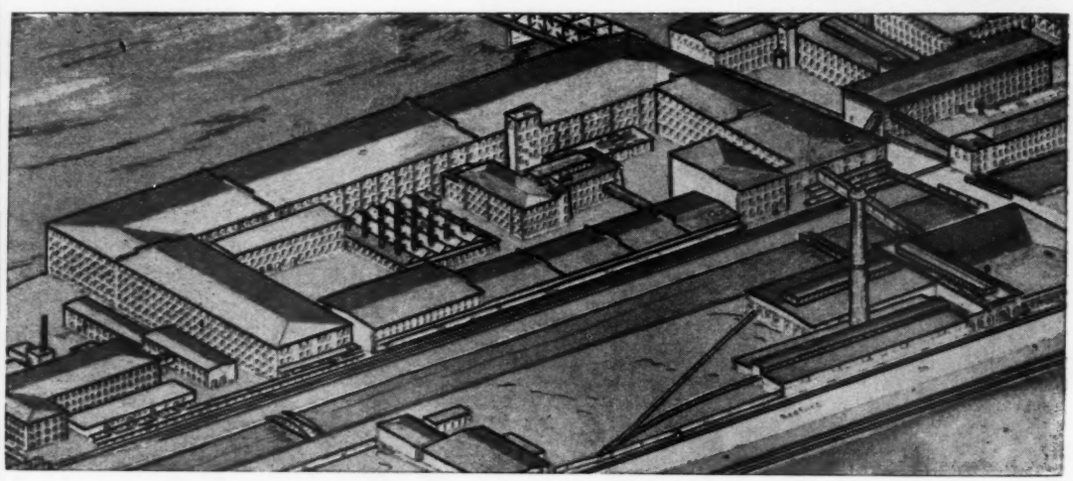
200 LOOM WORSTED MILL IN MANCHESTER, NEW HAMPSHIRE.

AMOSKEAG INDUSTRIES INC.



If you are looking for low cost operation, designed to give the manufacturer reasonable profits, investigate this amazing property now! 500,000 square feet of floor space, with machinery set-up for vertical operation and ready to go within a few hours. Adjacent steam plant will provide low cost power and heat. Or, if you are interested in the manufacture of top, or in spinning, weaving or finishing this modern worsted mill . . .

WILL BE SUB-DIVIDED TO SUIT TENANTS

- SCOURING, carding, combing units from 35,000 to 75,000 pounds weekly. Modern Sargent wool washers; wide Platt, Davis & Furber cards; French combs; Intersecting Gills.
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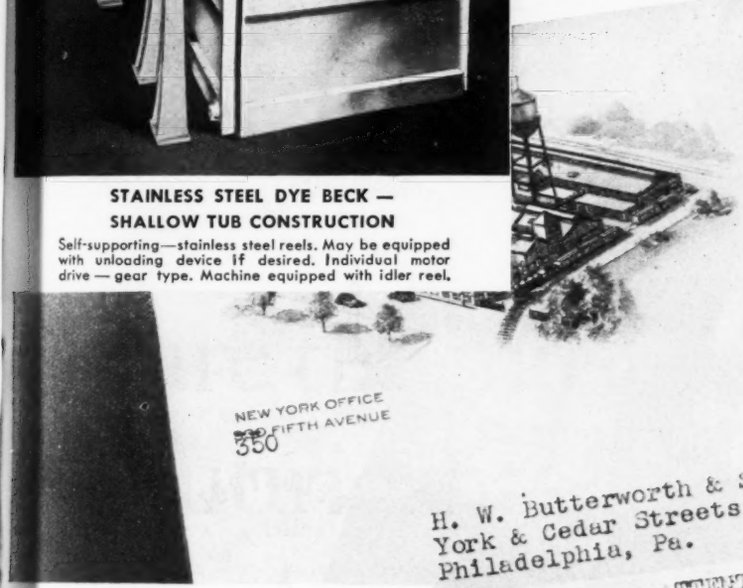
Self-supporting—stainless steel reels. May be equipped with unloading device if desired. Individual motor drive — gear type. Machine equipped with idler reel.

We need add nothing to this letter . . .

. . . . Except that we are specialists in Stainless Steel Construction



BLOSSOM PRODUCTS CORPORATION
ALLENTOWN, PENNSYLVANIA

November 17th, 1937.

NEW YORK OFFICE
350 FIFTH AVENUE

H. W. Butterworth & Sons Co.,
York & Cedar Streets,
Philadelphia, Pa.

ATTENTION: MR. HARRY W. BUTTERWORTH, JR.,
President.

Dear Sirs:

It is with pleasure that we wish to advise you that we find your Stainless Steel Tubs most practical, both from the standpoint of economy and efficiency. The entire Dye House equipment that you set up for us stands up very well and enables us to keep our Dye House spotless and in good order.

This unsolicited letter is being sent to you for reasons no other than the fact that we wish to give credit where credit is due. We sincerely hope that you will pass this information on to those who worked on the equipment you sent us, and hope you will express to them our gratitude and commendation.

Very truly yours,

BLOSSOM PRODUCTS CORPORATION

J. Lawrence Lesavoy

J. Lawrence Lesavoy,
President.

THROUGH intensive research we have perfected a method of welding and fabricating this popular metal and can furnish drying cylinders — dyeing machines (all metal or with lined tanks) — or special machines made to your order.

Put any problem pertaining to stainless steel equipment for the Dyer or Finisher up to us.

Remember: We make the complete line of **KLAUDER WELDON DYEING MACHINERY** and can furnish parts for any KLAUDER WELDON Machine

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PHILADELPHIA, PA.
Established 1820
PLANTS at PHILADELPHIA and BETHAYRES, PA.

New England Office: TURK'S HEAD BUILDING Providence, R. I.
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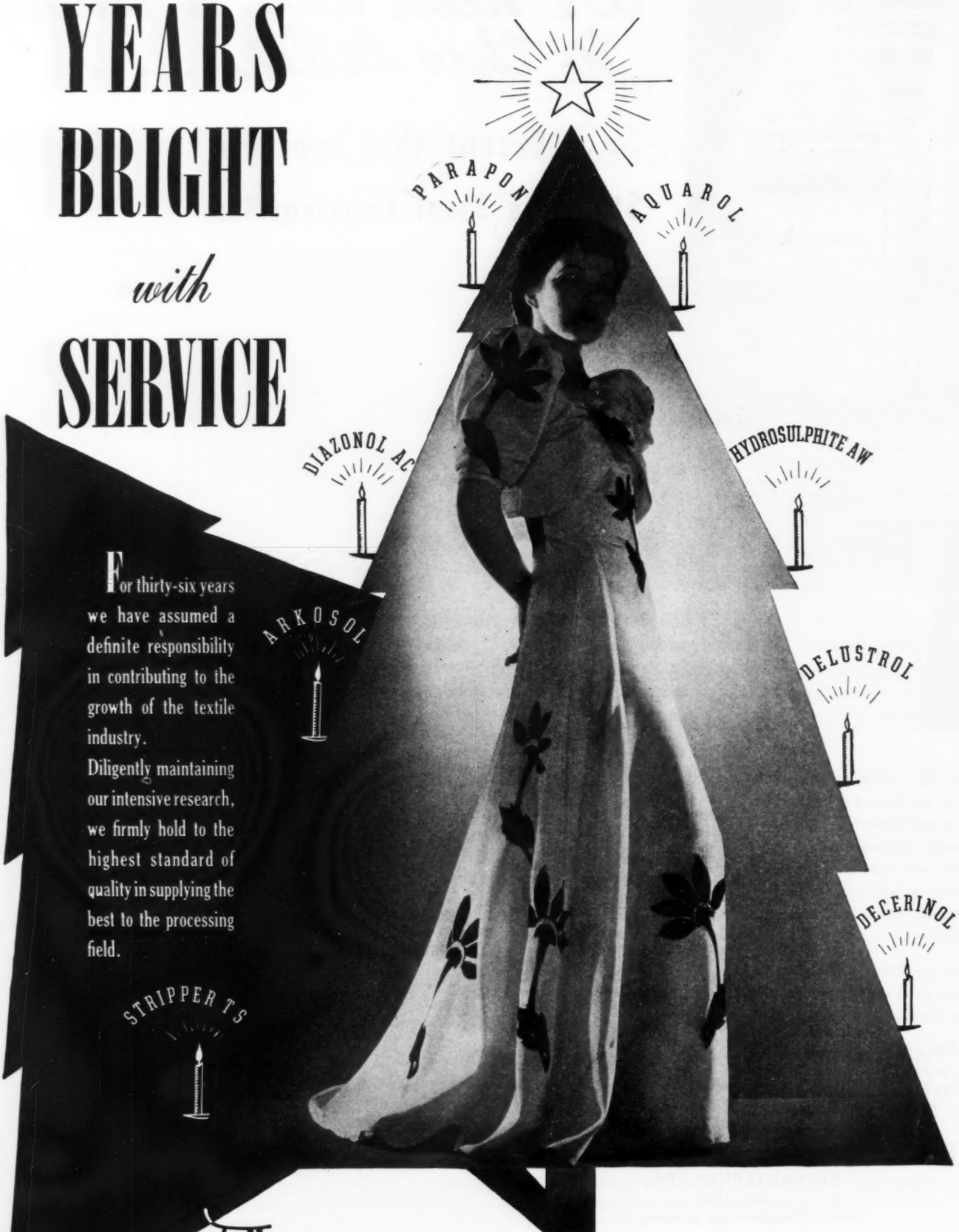
A COMPLETE LINE OF FINISHING AND RAYON MACHINERY FOR THE TEXTILE INDUSTRY

YEARS BRIGHT *with* SERVICE



For thirty-six years we have assumed a definite responsibility in contributing to the growth of the textile industry.

Diligently maintaining our intensive research, we firmly hold to the highest standard of quality in supplying the best to the processing field.

ARKANSAS CO. INC.

MANUFACTURERS OF TEXTILE CHEMICALS

233 BROADWAY · NEW YORK

If you stop to think how much depends on *correct* lubrication –power and lubrication costs, repair expense and spoilage –it is easy to understand why STANDARD OIL LUBRICANTS are the most *popular* textile mill lubricants in the South...The result of long experience in refining, unmatched facilities for research and experiment, STANDARD OIL LUBRICANTS assure you *correct* lubrication.

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Through the Centuries with Alkalies

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The refined soda of today contains none of the variation of quality common to the early production of natural soda. As produced under COLUMBIA'S system of rigid control, uniformity approaches the absolute; impurities, the vanishing point. COLUMBIA Control enables you to BE SURE that every shipment is like every other; every bag of soda ash, every drum of caustic, like every other. You can depend upon COLUMBIA.

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"We don't want our money back — we got over two percent extra production."

"Jackman, the Research Belting salesman, said we'd get at least 1 or 2% more average machine production with Research Leather Belting over ordinary belting . . . or we could have our money back.

"Well, here are the figures . . . and they're up 3¼%! Translate that percentage into dollars, and you've got something. With an extra profit like that, we'd be crazy not to put Research Belting on all our drives."

. . . from a conversation that might have taken place in any of a number of plants which actually have increased average machine production as much as 3¼% — simply by changing to the new Research Belting.

We're so sure Research Belting will also increase production in *your* plant — at least 1 or 2% over ordinary belting — that we'll return the purchase price if it doesn't.

You or your purchasing manager will find the nearest sales office or distributor listed in the Graton & Knight insert in the belting section of Thomas' Register. Why not call today to get Research Belting on one of your important drives where increased production can be measured?

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MODERN GRAV-I-DRIVE

Graton and Knight

RESEARCH BELTING

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WRITE FOR OUR HOME OF RESEARCH BOOK ON ECONOMICAL POWER TRANSMISSION

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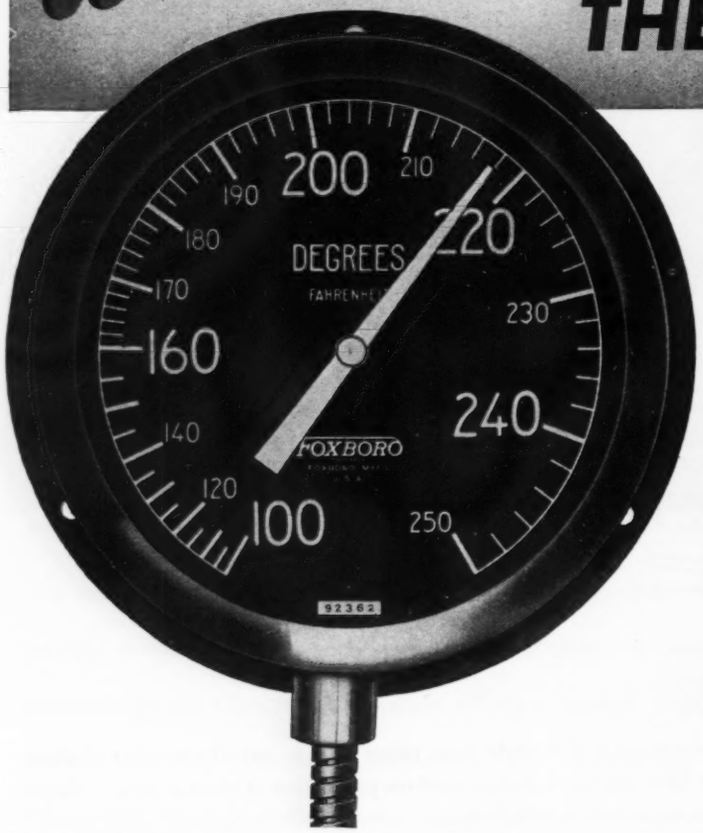
INSIST ON mono-therm INDICATING THERMOMETERS!



Summed up it means just this: Foxboro monotherm Dial-Type Thermometers give you the most for your money . . . and you can *always* read them. The Foxboro Company, 18 Neponset Avenue, Foxboro, Massachusetts, U. S. A. Branch Offices in 25 Principal Cities. Atlanta office: 101 Marietta Street Building.

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Accuracy—Precision over the entire scale range. Each instrument individually calibrated.

Maximum Visibility—From a distance of 20 feet and at a wide angle the 12-inch long scale is easily read.

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Individual Certification—Your guarantee of satisfactory instruments and dependable performance.

FOXBORO
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Certified INDICATING THERMOMETERS

IMPROVE DYEING RESULTS *and* LOWER COSTS

With the New

SMITH-DRUM PIECE GOODS DYEING MACHINE

Replacing obsolete wooden dyeing machines with the new Smith-Drum Piece Goods Dyeing Machine will insure finer results and at the same time effect important economies in dyeing costs. One Smith-Drum Machine will do the work of several wooden machines . . . requires only a fraction of the time to change colors . . . makes color matching much easier and quicker . . . eliminates danger of damage to materials . . . reduces maintenance and replacement costs. This outstanding new machine is designed and produced by the same Smith-Drum engineers who have perfected every major improvement in hosiery and skein dyeing machines during the past 50 years. It carries forward the Smith-Drum reputation for quality that every year sells more Smith-Drum Machines than all other makes of the same types combined. For descriptive booklet write

SMITH, DRUM & CO., PHILA., PA.

The Smith-Drum line also includes Skein Dyeing Machines . . . Hosiery Dyeing Machines . . . Skein and Warp Mercerizing Machines . . . Package Dyeing Machines . . . Hosiery Thread Cutters . . . Hosiery Inspection Forms. Complete catalog available on request.

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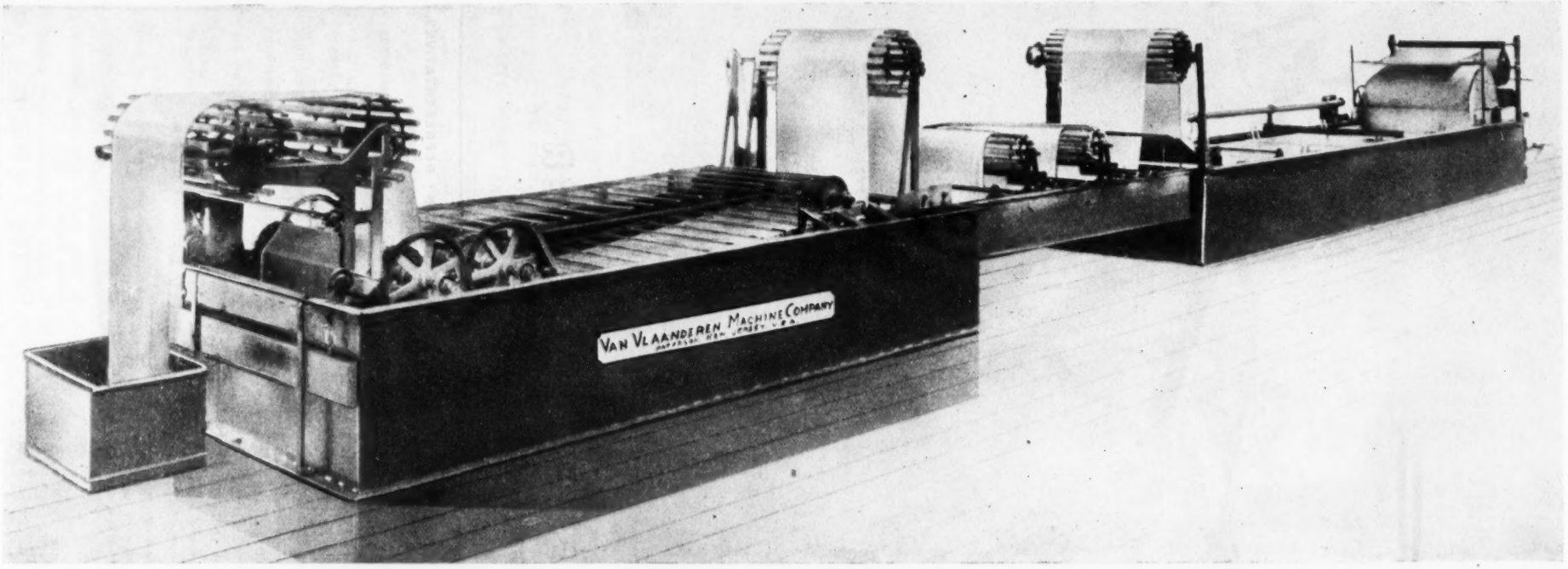
PIONEERS IN
CARD CLOTHING
TOP FLATS RECLOTHED
We maintain 6 repair shops for reclothing top flats. These shops are located in the various important textile centers (see signature). Send YOUR top flats to the most convenient address.
Our many years of experience and adequate facilities are your assurance of prompt and satisfactory service.

ASHWORTH BROS., Inc., Woolen Div.: AMERICAN CARD CLOTHING CO.
Factories in Fall River, Worcester and Philadelphia. Sales Offices and Repair Shops in Charlotte, Atlanta and Greenville. Southwestern Representative: Textile Supply Co., Dallas, Texas.

PRODUCTS AND SERVICES: Card Clothing for cotton, wool, worsted, silk and asbestos cards and for all types of napping machinery; brusher clothing and card clothing for special purposes; lickerin wire and garnet wire; sole distributors for Platt's Metallic Wire; lickerins and top flats reclothed at all plants.



Continuous, full-width, loose-form, conveyor-type machine for—

This machine has almost unlimited possibilities.

ASK FOR

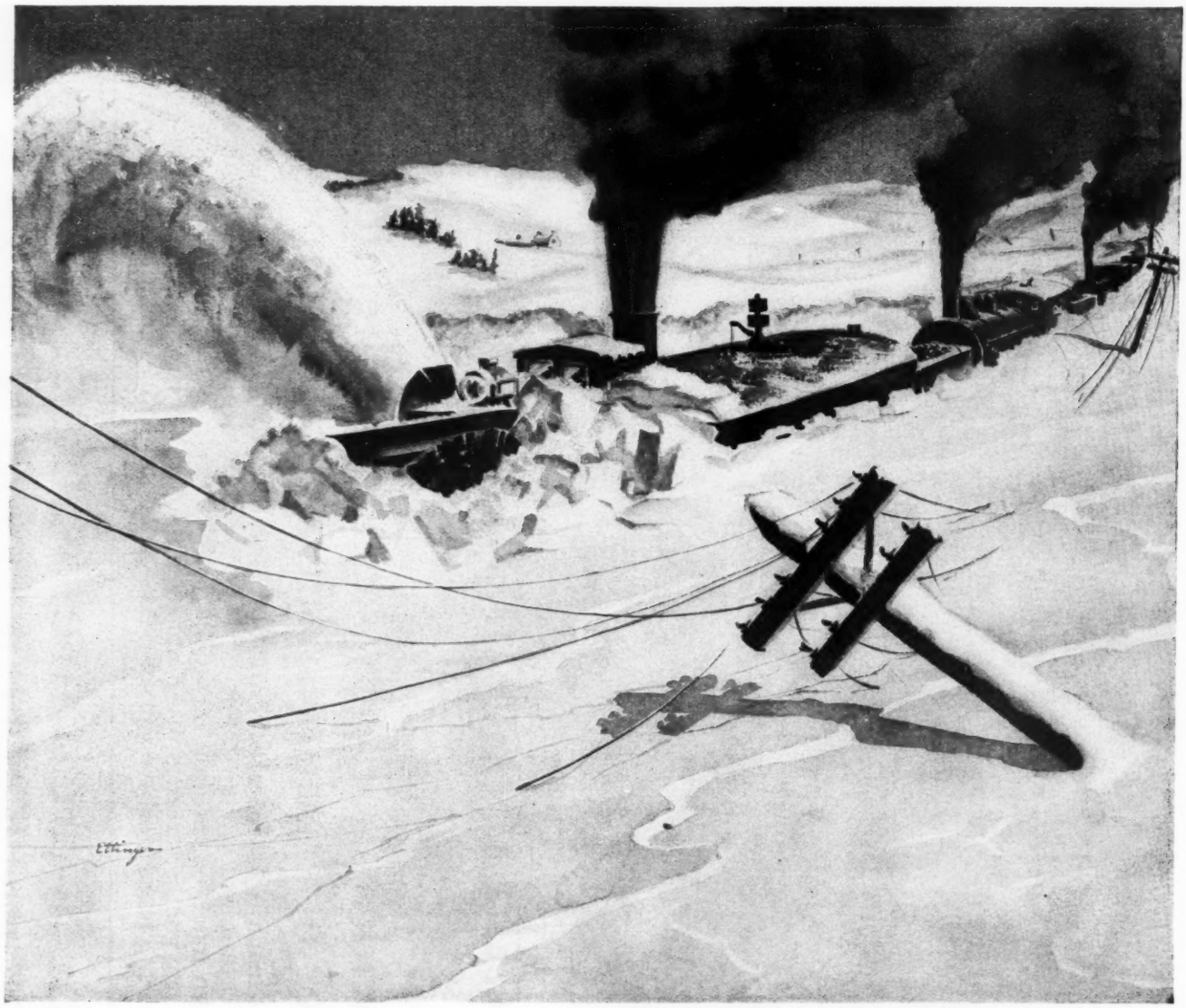
full data and specifications.

Open-width boil-off, scouring, chemicing and all other operations which require time-process

This patented machine is desirable for rayon, acetate, silk, cotton and mixtures. It is the only full-width machine for boiling off silk, that conveys the goods during boil-off operation, eliminating hand work. With variable speed, up to 460 yards can be submerged at one time, continuously and progressively. No cloth strain. Permits more shrinkage than on any other type of handling. An economical labor-saving, versatile machine.

Van Vlaanderen Machine Co., 370 STRAIGHT ST., PATERSON, N. J.

World's largest manufacturers of silk and rayon processing machinery



WHEN YOU'RE SNOWED UNDER

with Advertising and Selling Problems

. . . the COTTON men can help you plow through to market!

Whether you sell to industrial executives, professional men or merchants, it is certain that your customers and prospects look to A.B.P. publications for the progressive ideas that enable them to conduct their businesses more profitably. That puts the A.B.P. publication representatives in a sweet spot to help you level the drifts of sales resistance. For one thing, they can give you a clean-cut picture of the outstanding advertising values of vigorously edited, ethically administered business papers that offer the Audit Bureau of Circulations' measurement of *Paid Circulation* plus the Associated Business Papers' brand of authentic readership analysis.

But A.B.P. publication representatives can do much more than help you to reach your prospects economically and effectively. They and their editors stand ready to give you the benefit of their intimate knowledge of the buyer's side of the fence in your markets. Surely, a fresh slant on any one of the points listed at the right will help clear the road to increased sales. Let the next COTTON man who calls add the weight of *his* specialized experience to your own thorough knowledge of *your* business.

HOW THE "COTTON" REPRESENTATIVES CAN HELP YOU

1. To sense and evaluate significant trends.
2. To determine market potentials.
3. To suggest product or package changes.
4. To help you select and reach your prime prospects.
5. To help plan sales and advertising strategy.
6. To aid in improving sales and distributive set-up.
7. To translate all available market and sales statistics into terms of your particular problem.
8. To scan copy for trade jargon.
9. To suggest new products, or new markets for old products.
10. To suggest ways to make sales promotion more effective.
11. To help devise practical merchandising material.
12. To point out specific sales opportunities.

Impartial measurement of reader interest in terms of paid circulation

COTTON

Grant Building Atlanta, Ga.

Authentic facts relating to editorial scope and readership analysis

Give the little girl a **hand**

If ever there was a girl in distress it's a spinner that has to run machines and clean them at the same time. She just can't do it—and do it right.

You can give your spinners a hand—and get top production in return for the favor—by cleaning your frames with Parks Automatic Traveling Cleaners. Spinners, then, do nothing but spin. Machine stoppage, breakage, seconds are reduced. And the cleaning is far better, more regular than ever before. Slugs, gouts and bunches are eliminated.

Once installed in your mill you find that Parks Automatic Traveling Cleaners make excellent investments. They pay for themselves before long. And the two types available overcome installation troubles. One, the Parks Turbo Traveling Cleaner, is mounted on creel boards. The other, the Bunchless Automatic Cleaner, runs on single rails suspended from the ceiling. Both of these are completely automatic — they clean as they travel. Both give the same results. Send coupon for complete information.

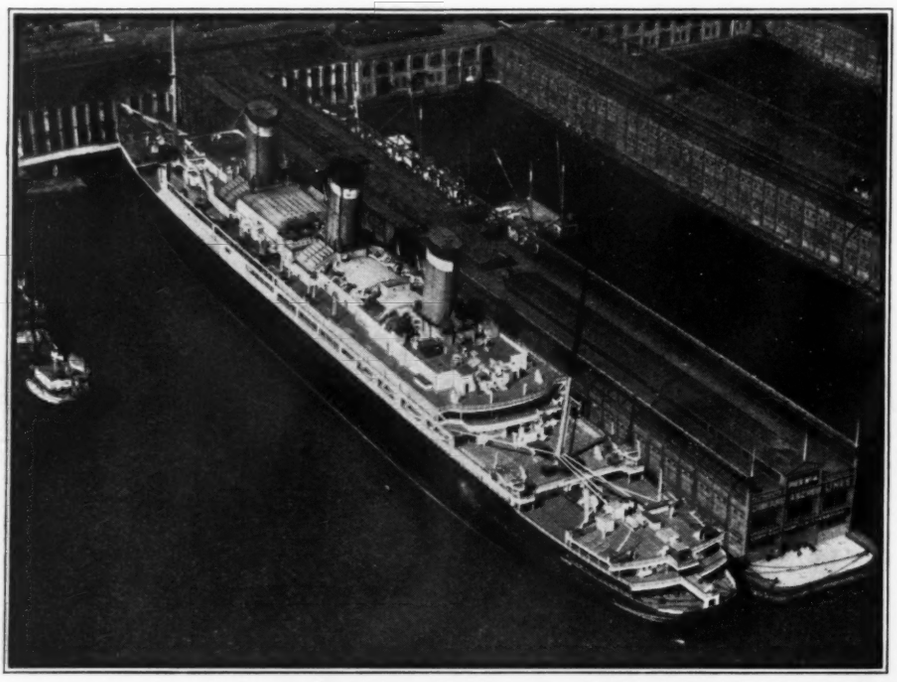
Gentlemen: Please send me Bulletins on Parks Automatic Traveling Cleaners ☐ You may have an engineer call ☐
(Please check)

Name .....
Company .....
Address .....
City .....
State .....

PARKS *Traveling Cleaners*

PARKS-CRAMER CO., FITCHBURG, MASS. . . . CHARLOTTE, N. C.

4409



(Plate—courtesy NEWS-WEEK)

The Famed Leviathan Which Died At Its Last Berth

An Historic Ship That's **Doomed** to the Scrapheap

●

You Can Blame **Obsolescence** For This!

The S. S. Leviathan is to be scrapped and thus will end the career of this famed ship. It was originally built by Germany and christened "The Vaterland." During the war it was taken over by the United States and used to transport troops. After the war it became the flag ship of the United States Lines. Now "as it must to all" *ships* the Leviathan is doomed to oblivion.

Though this ship is still serviceable and in good condition, it is being abandoned *because it has become obsolete.* Since a ship of this type costs so much more to operate it can not compete with the more modern and faster ships, and is now to be junked.

While the scrapping of the Leviathan is a subject foreign to the textile industry, it nevertheless strikes home because of the common denominator of obsolescence. Textile mill operators are also constantly fighting this factor. Is *your* present equipment *OUT*-"dated"? Antiques do not belong in *any* plant, and old-fashioned methods, based on inadequate machinery have no place there either. A mill, however, cannot afford to junk its machinery every few years, yet it can't afford *NOT* to keep it up to maximum efficiency with the aid of improved parts, additions and improvised devices.

Perhaps our textile equipment and parts *or certain devices we could build exclusively for your requirements* (as we've done for others) could bring your machinery up to date in production and in some cases make it possible to save those old machines at the same time.

So for standard *or special* repair parts of any textile machinery use—AS OTHER TEXTILE MILLS DO—the services of WEST POINT.

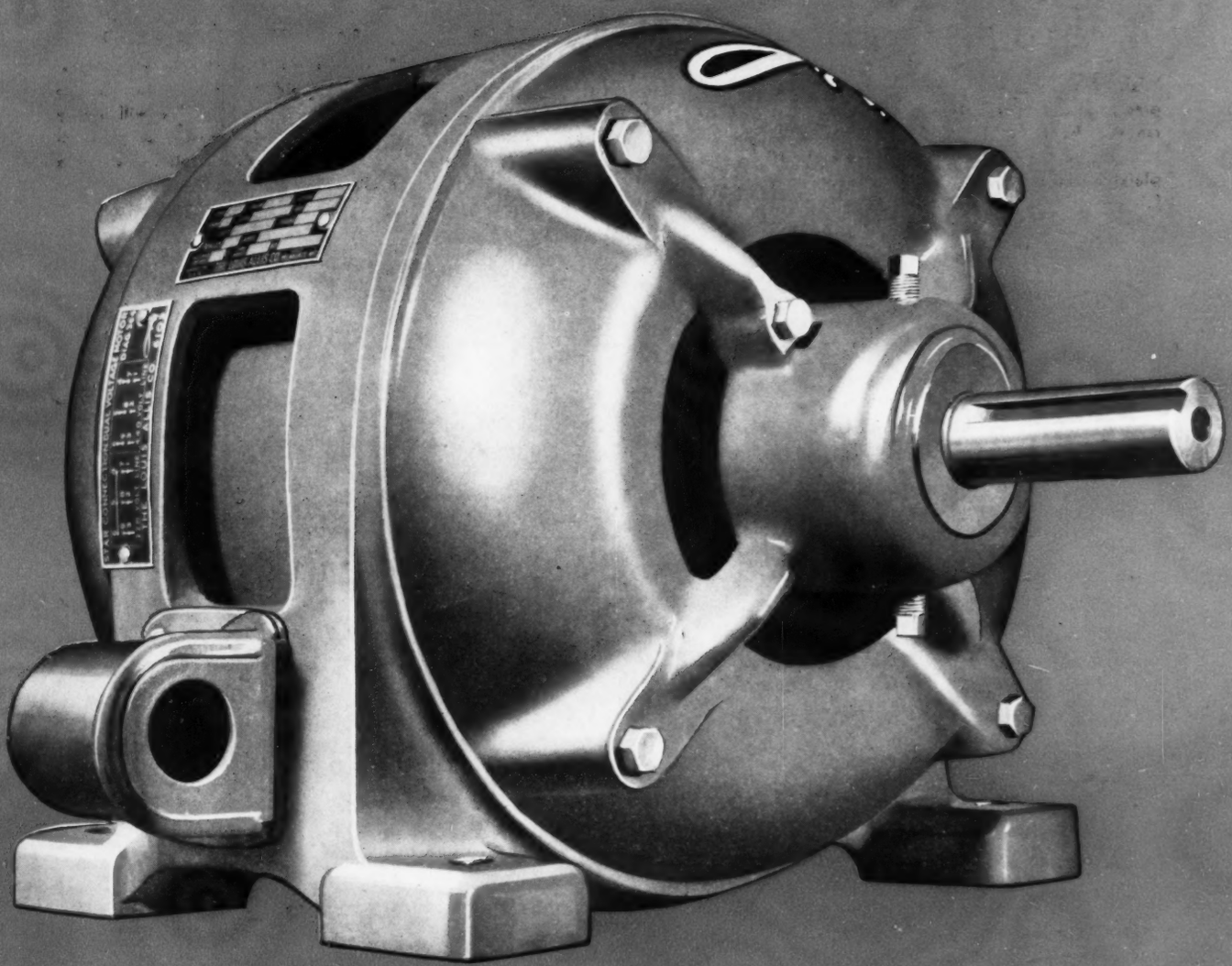
Manufacturers of Loom Beams, cloth room and other textile machinery, repair parts, bobbin gears, spur and bevel gears in iron, steel and brass.

WEST POINT FOUNDRY & MACHINE CO.

(Batson-Cook Company, Owners)

WEST POINT, GEORGIA

LOUIS ALLIS



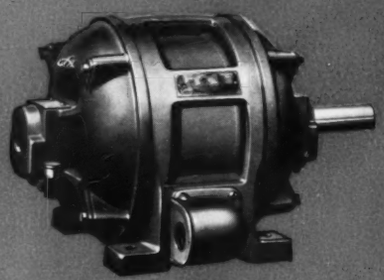
A Size and Type Electric Motor
for Every Industrial Requirement

THE LOUIS ALLIS CO., MILWAUKEE, WIS.

SEE OTHER SIDE

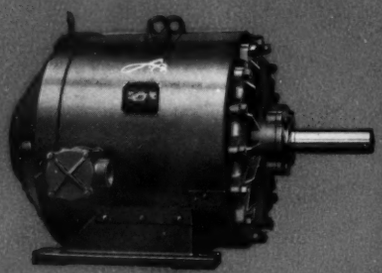
There is a Louis Allis Motor for every job

. . . designed and built from the ground up, as sturdy, powerful motors for successful performance for modern high speed production.



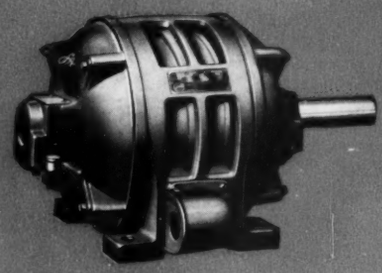
STANDARD OPEN SQUIRREL CAGE MOTOR

Well designed, carefully engineered, precision built—available in a very wide range of both electrical and mechanical modifications. Write for copy of completely illustrated bulletin No. 505 for full details.



EXPLOSION-PROOF MOTOR

For use where gasoline and other petroleum products, lacquer solvents, and equally hazardous liquids are made, used or handled. Approved by Underwriters'. Bulletin No. 508 fully describing will be sent upon request.



RAPID REVERSING MOTOR

If you have a product or operation that requires rapid reversing action (up to 100 times per minute) we will gladly send complete information of construction and advantages of this unusual type motor.

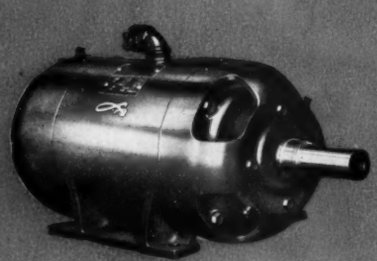
SPLASH-PROOF MOTOR

Designed and built from the ground up as a real splash-proof motor—full protection against acid spills—splashing liquids —high humidity. Write for copy bulletin No. 512 fully describing.

stator housing only illustrated

SELF-CLEANING MOTOR

Designed for use in atmospheres containing non-combustible dust, lint or mild acid fumes. Bulletin No. 511 fully describing this unusual motor will be sent upon request.

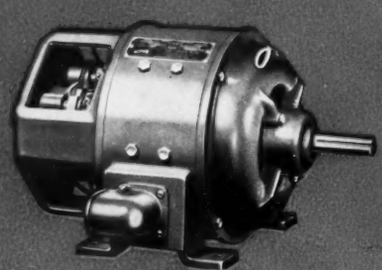


ARBOR MOTORS

These motors are especially adaptable for applications where the available space for mounting is limited. They are available in a wide range of sizes and electrical characteristics. Complete information and suggestions for your particular problem will be gladly sent upon your request.

TOTALLY-ENCLOSED FAN-COOLED MOTOR

For combustible dust and all locations where abrasive, metallic or corrosive dust is present—the tougher the conditions the better this motor likes it. Described fully in bulletin No. 510—write for copy.



STANDARD DIRECT-CURRENT MOTOR

Available in a wide variety of both electrical and mechanical modifications—the proper motor for every job. For complete details write for bulletin No. 507.

GEAR REDUCER MOTORS

Louis Allis motors can be supplied with a very wide range of various types of gear reducers — integral — all-motor — gear-head—vertical—right angle or parallel—the proper drive for every industrial application.
Complete information and suggestions for your particular drive will be gladly sent upon your request.

We invite your inquiry . . . your needs will receive our most prompt and careful attention in every way.

THE LOUIS ALLIS CO., MILWAUKEE, WIS.

LOUIS ALLIS

The Product Tells the Story!

● This young lady uses a well-known brand of hose — a brand that's always uniform, good-looking and long-wearing.

POSITIVE, INFINITELY VARIABLE SPEED TRANSMISSION IMPROVES QUALITY, LOWERS COSTS

● Slight departures from ideal operating speed often reduce machine efficiency and impair quality in the finished product.

Machines equipped with the P. I.V. Gear can cope with the ever-increasing number of production variables in present-day manufacturing.

It is a powerful factor in eliminating waste, promoting uniformity, and increasing salable output. At the turn of a handle, any desired speed within pre-determined limits is instantly available, while the machine is in operation. Send for Book No. 1574.

Link-Belt Company, Philadelphia, Chicago, Indianapolis, Atlanta, San Francisco, Toronto or any of our other offices located in principal cities. 7223

- Gear-like teeth — do not slip
- Minute speed changes made while machine is running
- All metal
- Self-oiling
- Completely sealed housing
- Horizontal and Vertical Mountings
- Motorized and Gear Set Models

LINK-BELT PIV GEAR

POSITIVE INFINITELY VARIABLE SPEED TRANSMISSION

Onyx ANNOUNCES THE Mapro* SERIES

★ Mapromin

A blend of the sodium salt of the boro ester of sulfated oleyl and cetyl alcohol. A wetting agent and highly effective dye leveller and softener. Easily soluble in warm water; resistant to the action of hard water and most metallic salts; stable under all usual mill conditions of acidity and alkalinity.

★ Maprofix

The sodium salt of the sulfated boro ester of cetyl alcohol. Particularly useful as a high temperature detergent (over 140° F.) Used as a softener, it imparts a dryer, more supple hand than Mapromol. Adequate solubility over the temperature range used in textile operations. Excellent stability.

★ Mapromol

The sodium salt of the sulfated boro ester of oleyl alcohol. A highly potent softening agent, particularly effective for its lubricating qualities.

Each of these products is available in paste or powder

Many advantages in processing and finishing of RAYON - SILK - HOSIERY - WOOL - WORSTED

After three years of exhaustive research, Onyx chemists bring you the MAPRO Series—new type products which exceed the values of soaps, surpass existing auxiliaries in all-around usefulness and merit . . . but have few of their defects.

The MAPRO Series are extremely potent in detergency, wetting, dye-levelling and softening qualities. They are quickly soluble, resistant to hard water and stable to acids, alkalies and oxidation. They have rapid rinsibility, effective foaming and efficient emulsifying properties.

This combination of advantages, available in an *advanced degree,* opens new opportunity to every textile mill for savings, reduced troubles and improved output.

WRITE, giving full details of your operation or problem, to get sample and recommendations. Let our trained representatives demonstrate in your mill, without obligation.

*Patented

Onyx

Onyx Oil & Chemical Co.

Specialists on Finishing Materials

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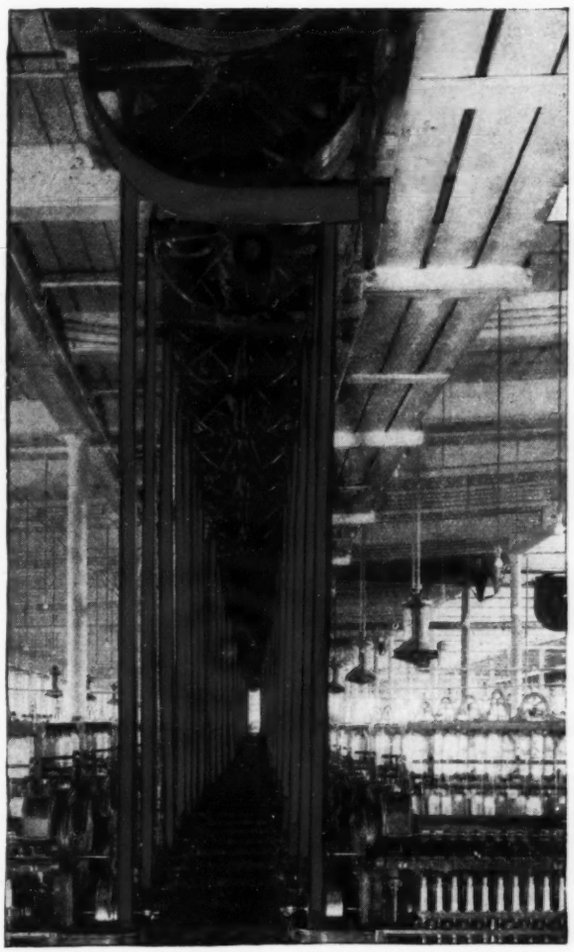
ALL THE POWER . . .
all the time with



Condor Compensated Belt on a bicycle drive operating a large number of spinning frames in a cotton mill. Performance reported to be very satisfactory for this severe service.

Condor Compensated
PATENTED
TRADE MARK REGISTERED

The Low Tension Rubber Belt with Equalized Ply Stresses

TO maintain peak production day after day requires all the power . . . all the time. With this in mind, many plants to keep production on schedule, specify Condor Compensated Belts to transmit power smoothly without interruption.

Condor Compensated Belt is especially designed and constructed to equalize stresses and strains developed when flexed around the pulley—where the destructive work is done; it also has a special pulley surface, designated as Hycoe Surface, that permits low tension operation. As a result, Condor Compensated not only performs better, but lasts longer; fasteners wear 3 to 4 times longer, ply separation and rupture are reduced to a minimum.

For smooth, uninterrupted power that keeps production on schedule, put Condor Compensated on your drives. You'll find that the equalized ply construction . . . the low tension operation results in 12 advantages* that *lower power transmission costs.*

*12 ADVANTAGES

1. Ruptures in outside ply eliminated.
2. Freedom from ply separation.
3. Longer fastener life.
4. Can be operated on smaller pulleys.
5. Less bearing, shafting and hanger troubles.
6. For heavy loads, plies may be increased with same pulleys.
7. Operation less affected by atmospheric conditions.
8. Higher overload capacity or margin of safety.
9. Less wear on pulley side.
10. Can be dressed without injury to belt.
11. High production efficiency.
12. Material reduction in belting costs.

Condor PRODUCTS

V-Belt
Transmission Belt
Cone Belt
Air Hose
Acid Hose
Water Hose
Fire Hose
Steam Hose
Suction Hose
Molded Rubber Goods
Oilless Bearings
Hard Rubber Pot Eyes
Rubber Lined Tanks
Rubber Covered Rolls

SOLD BY LEADING JOBBERS

THE MANHATTAN RUBBER MFG. DIVISION
OF RAYBESTOS-MANHATTAN, INC.

EXECUTIVE OFFICES AND FACTORIES, 23 TOWNSEND ST., PASSAIC, N. J.

Aye, SIR

AND A SAVINGS, TOO
with
JACOBS
Individualized

- LABELS
- BANDS
- TICKETS
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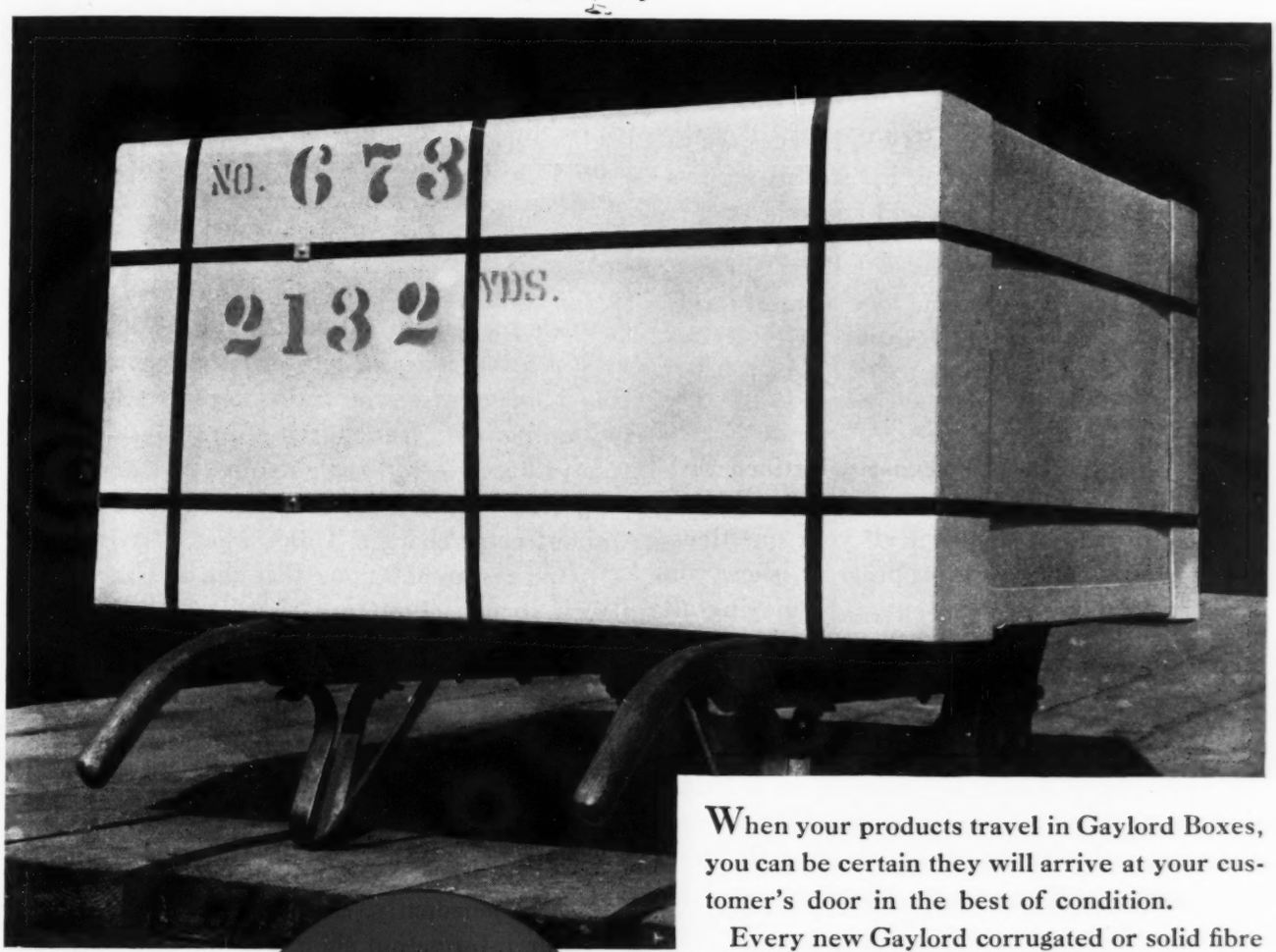
- HANG TAGS
- BOX TOPS
- RIDERS

an Inquiry will not obligate you

THRIFT

JACOBS
GRAPHIC ARTS COMPANY
CLINTON, S. C.

Safe on arrival



When your products travel in Gaylord Boxes, you can be certain they will arrive at your customer's door in the best of condition.

Every new Gaylord corrugated or solid fibre shipping box is designed by highly skilled packaging specialists, built of tougher materials and put through exacting laboratory tests. The result is hundreds of satisfied users who have learned to have confidence in the famous Gaylord "Margin of Safety".

Let Gaylord help solve your shipping problem. Write today for facts and figures on what we have done for your industry and what we can do for you.

Gaylord Boxes

There is a Gaylord plant or sales office in your territory.

GAYLORD CONTAINER CORPORATION

GENERAL OFFICES: SAINT LOUIS

FOLLOWING YOUR HOBBY TO FLORIDA THIS WINTER?

● You Can Enjoy It at Its Best—With a Complete Program of Other Sports—and the Highest Standards of Living—All for the Cost of an "Ordinary" Holiday—If You Know HOW.

WE KNOW "HOW", because we've made a business of knowing, by careful surveys and analyses of resort facts and figures.

We would like the privilege of telling you personally what we have found out about Florida vacations in general and about THE MOST AMAZING VACATION EVER CONCEIVED in particular.

For this purpose, staffs of experts, fortified with factual data, are maintained in our New York and Chicago offices to answer all your questions, help you plan your vacation program, show you many economies and short-cuts for enjoying all the fun. They will be pleased to call on you at office or home, if you are in these cities or in Boston, Philadelphia or Washington. If you are not in or near these metropolitan centers, they will give you thorough information in a letter, answering your individual queries. This service, of course, does not obligate you in the slightest.

We have an extraordinary story to tell—and we want to tell it to you personally. Among other important points are the hotels which offer this revolutionary plan of guest entertainment: the Roney Plaza in Miami Beach and the Miami Biltmore in Coral Gables, adjoining Miami—two of the greatest resort hotels in America, each with its own vast estate, each a complete resort in itself. They offer more than luxurious living. They offer a complete vacation as well—all for the one price of your accommodations.

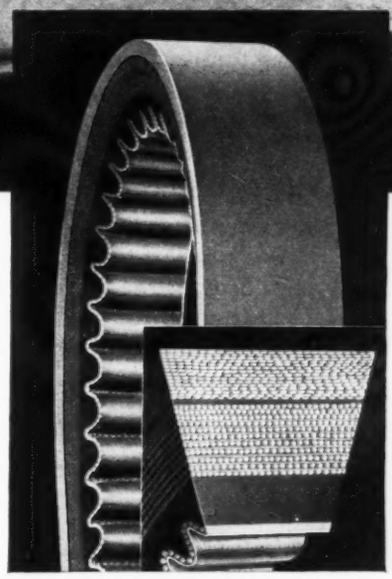
Guest entertainment at these hotels really means something! Facilities within the hotel estates themselves and extra club privileges outside expand your vacation opportunities to indulge *all the fun* in this famed playground—including golf on the championship Miami Biltmore Country Club course, surf and sun bathing on the private beach of the Roney Plaza Cabaña Sun Club, tennis on the private courts of both hotels, deep-sea fishing in the teeming waters of the Gulf Stream, with living accommodations at the Key Largo Anglers Club on the Florida keys.

Leading the cost-free economies provided for our guests is that important item of local transportation. A private fleet of aerocars—big, comfortable auto lounge cars—maintains regular schedules, day and night, transporting our guests to all resort interests—races, nightclubs, theaters, shopping centers, even down to the Florida keys—without extra charge. Think what a saving this is! Our researches show that the average vacationist spends about one-third of his vacation dollar on taxis and other local transportation! This economy in itself attests how THE BEST COSTS LESS, when you're a Roney Plaza or Miami Biltmore guest.

There are many other courtesies and economies granted in this revolutionary policy of complete vacation entertainment. Let us go over them with you personally, as well as give you much valuable information about Florida and vacation costs in general.

● Write, wire or phone our New York office: 551 Fifth Avenue, Room 712, Telephone MUrray Hill 2-0521; our Chicago office: 120 South LaSalle Street, Room 1265, Telephone Franklin 4645.

NO OTHER V-BELT COMPARES WITH DAYTON FOR SMOOTH RUNNING



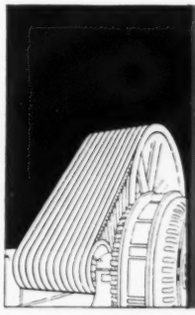
Gliding smoothly, quietly, and steadily from pulley to pulley . . . Dayton Cog-Belts transmit the full force of motive power without apparent effort.

They run straight and true. Their patented, exclusive construction gives them perfect accuracy and balance. With Dayton Cog-Belts there's no buckling, no squashing, no twisting in the pulley grooves . . . none of the weaving, writhing, whipping action which shatters the life out of other belts and racks machinery with vibration.

Dayton Cog-Belts require less maintenance and adjustment. They reduce trouble and expense. They keep machines going at rated speed and increase production. They work on shorter centers and save space. They last longer.

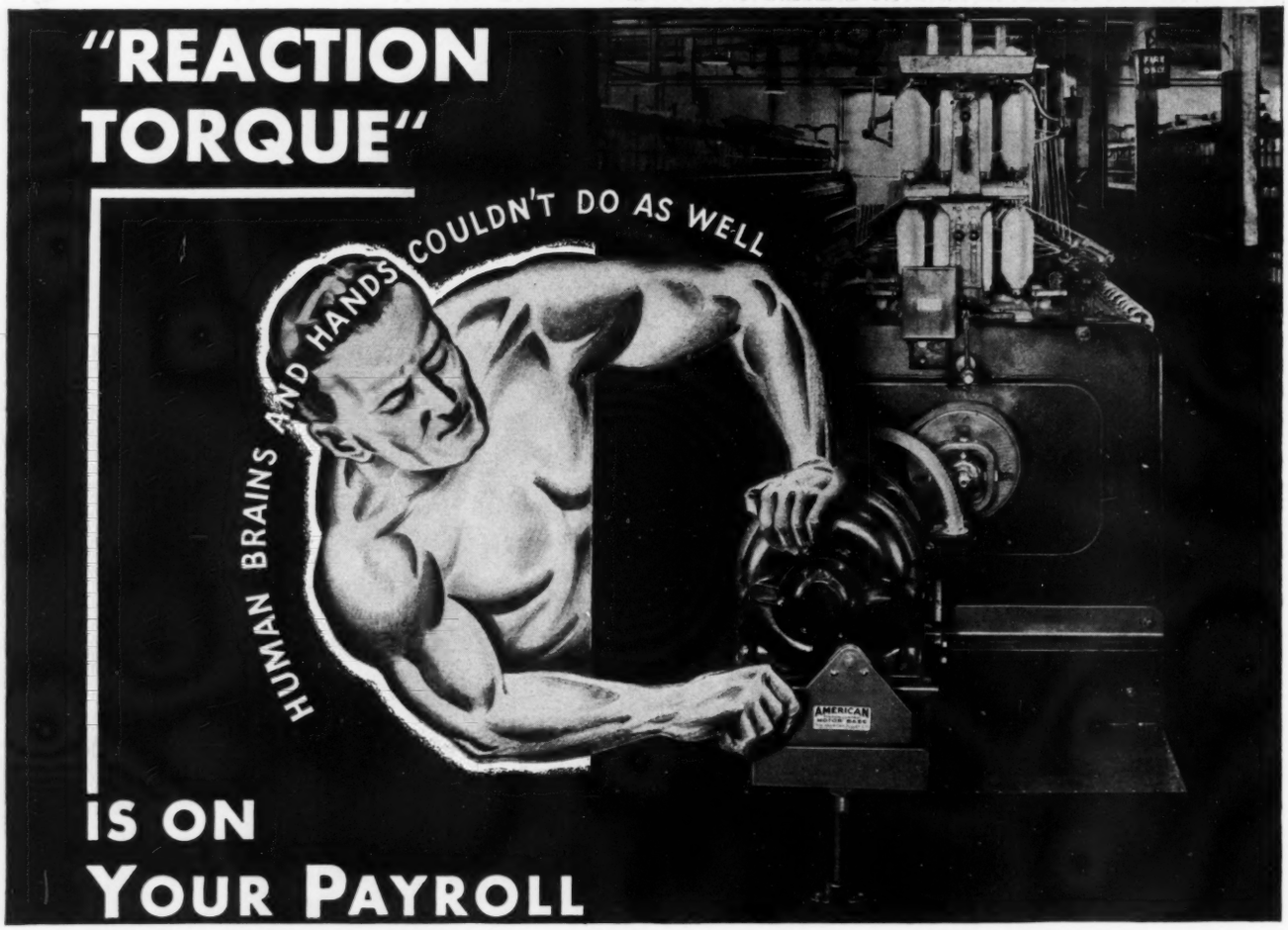
Write us for catalogs and data, or call your local Dayton Distributor.

THE DAYTON RUBBER MFG. CO.
DAYTON, OHIO



Dayton
COG-BELT DRIVES
MADE BY THE WORLD'S LARGEST MANUFACTURER OF V-BELTS

"REACTION TORQUE"



IS ON YOUR PAYROLL

We believe that in the textile industry there are certain basic factors that are essential to a completely satisfactory short center belt drive installation. By utilizing "reaction torque", a natural force inherent in every motor that you operate, the American Tension Control Motor Base is distinctive in that it automatically matches belt tension to load requirements. It greatly reduces average operating belt tension and provides each of these fundamental advantages:

1. *Positive Drive*—maintains desired cylinder speed.
2. *Smooth Starting*—no destructive starting jerks.
3. *Long Life*—years of trouble-free operation.
4. *Low Initial Cost*—you should investigate this.
5. *Uses Less Horsepower*—ask for special data.
6. *Lower Maintenance Expense*—requires infrequent attention.
7. *Lower Replacement Expense*—prolongs belt and bearing life.
8. *Clean in Operation*—cannot damage product.
9. *Compact*—no aisle projections.
10. *Incomparable Overall Efficiency.*

These important results cannot be obtained in any other way. We will gladly install American Tension Control Motor Bases in your plant on approval so you can prove their money-saving efficiency in your own plant. We are willing to stand or fall on your findings, even though we can accurately predetermine actual performance.

THE AMERICAN PULLEY COMPANY, 4200 Wissahickon Ave., PHILADELPHIA, PA.

AMERICAN Tension Control MOTOR BASE

COTTON

Vol. 101 No. 12

DECEMBER, 1937

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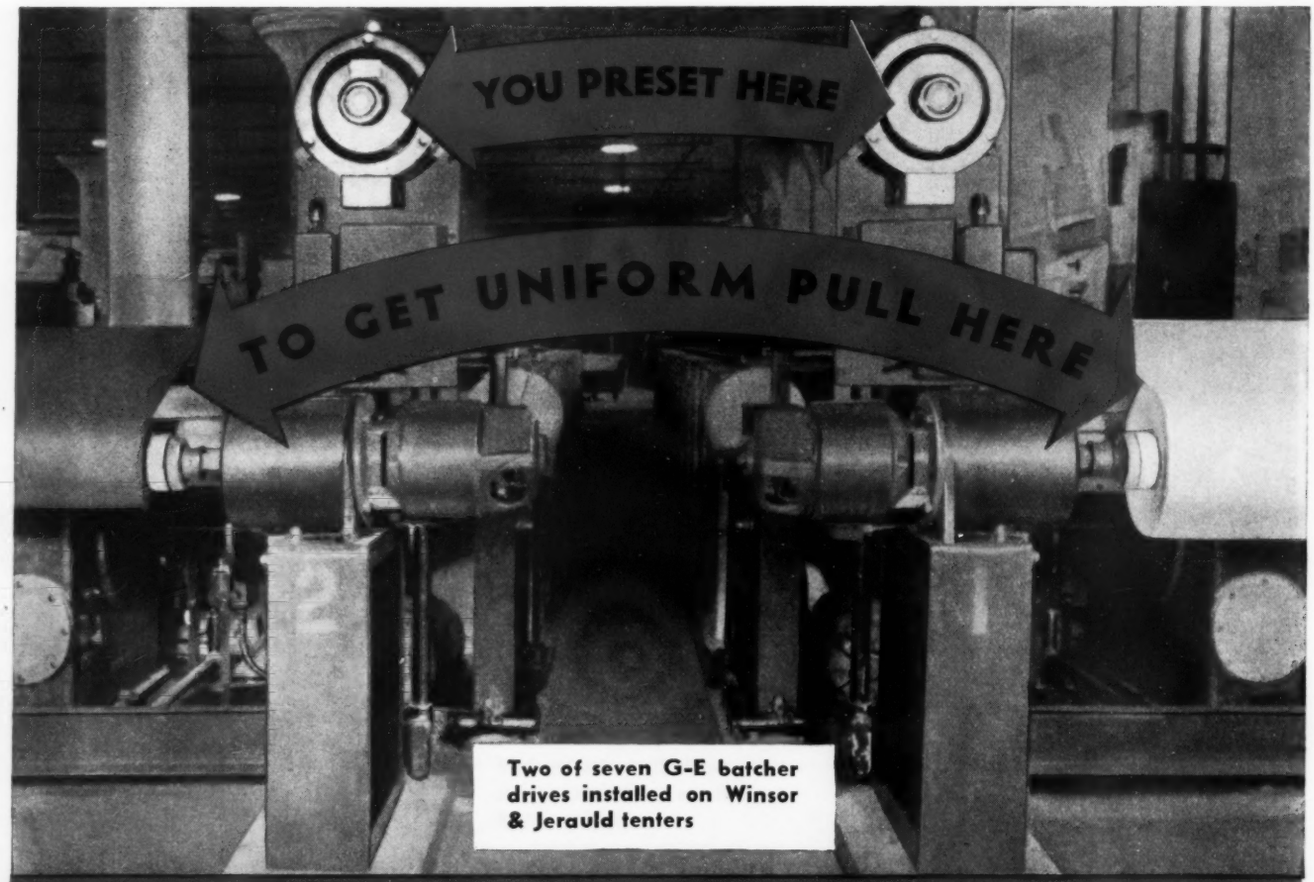

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COTTON

December,
1937

Walter Davenport's Article in "Collier's"—and

The Industry's Opportunity and Need in Public Relations Work

WALTER DAVENPORT, a member of the staff of "Collier's" magazine, threw a stink-bomb at the southern textile industry with his article titled "All Work and No Pay", in the November 13 issue of that publication. The major premise of the article was that southern textile worgers as a whole are held in a state of virtual peonage through the "company-store' system, which the author fallaciously implied was general throughout the South, and in support of the premise, Mr. Davenport illustrated and made much of one weekly pay ticket of an unnamed employee on which deductions for "the store" and other purposes consumed exactly the amount of his earnings for the period. From this instance, Mr. Davenport, through some strange and naive process of reasoning, drew the conclusion that national wages-and-hours legislation was a necessity, and that the South's resistance to such legislation is predicated on a determination to perpetuate the horrible state of peonage that he so skillfully described.

The article was a cleverly-written, tear-jerking piece of slander, which could not have been unintentional. The major difficulty with it was that such facts as it contained were half-truths or untruths, its illustrations consisted of possible isolated examples which the author obviously distorted and adroitly misrepresented as being typical—and its implications were so totally unfair, untruthful and specious as to make the entire discussion ridiculous, other than as a spectacularly readable piece of muck-raking for the gullible and the uninformed.

NO TIME will be spent here in contradicting the specific implications of Mr. Davenport's "expose", for two reasons: First, the regular readers of COTTON already know how utterly ridiculous the article was as a study of southern textile working and living conditions, and we believe there is something more constructive to be gained from the incident than the task of carrying coals to Newcastle. In the second place, the lay press of the South and certain individuals and agencies in the industry immediately and effectively presented to the public a mass of factual evidence that refuted the unsound and deliberate misrepresentations of the *Collier's* article. For weeks after the appearance of the article, southern newspapers devoted columns of space to refutations, in special articles, interviews with mill executives and workers, southern profession and business men and others not charged with aiding in this system of "peonage", and in rightfully indignant editorial comment. So far as such misrepresentation could be counter-acted with the truth, among the public in the section concerned, an excellent job was done.

A PARTICULARLY EFFECTIVE JOB of contradiction was achieved in Georgia in the lay press, and among the general public. Back in 1934, the cotton mills of Georgia instituted a campaign of publicity in the form of paid advertising which was published in every daily and weekly newspaper in the state. Subsequently, the Georgia association of mill men has sponsored two similar campaigns of the same character—the purpose being to present to the general public, the state legislators, educators, ministers and other moulders of public opinion, the true facts with respect to the textile industry, its labor relations problem, its importance to the welfare of the state and its agricultural, business, and governmental welfare. These campaigns with their related activities were unquestionably responsible in large degree for the readiness with which the press of the state accepted, and even sought, means of refuting the *Collier's* charges.

Furthermore, contact with these campaigns and with tangible evidences of their constructive effect and influence undoubtedly awakened a great many Georgia mill men to the value of intelligent, positive publicity, properly directed, with the result that a host of them were eagerly willing to discuss for publication in the lay press the true facts of the situation in the case of the *Collier's* article. Although correction and rebuttal to vicious slander may not be tasteful, although it may not always touch every reader of the original, it is far better than an attitude of silence and refusal to comment, which can but leave the newspaper reporter and the public with the feeling that there was something to the criticism after all, else it would have been refuted with the facts to disprove it.

It was especially heartening to note among many prominent southern mill men, especially evidenced in Georgia, an enlightened and understanding attitude in

this respect. A similar campaign subsequently undertaken by the Alabama mills gives evidence of the broadening influence of the idea.

BUT, UNFORTUNATELY, the article in question was read throughout the nation, and the most sanguine belief that it was properly counteracted in the South (where informed, thinking people already recognized its deliberate unfairness) must recognize that in other parts of the country, especially among legislators and educators, it would be natural that the article would be accepted at its face value, in the absence of available evidence to the contrary.

This leads, then, to the obvious conclusion that among the textile industry's greatest needs is that of an intelligently directed, constructive and positive program and attitude of public relations. The article by Mr. Davenport in *Collier's* of November 13 was not the first deliberate attack on the textile mills, nor will it be the last. "A good offense is the best defense" is an old military stratagem that can be equally effective in public relations as well as on the battlefield or the gridiron. Too many of the fine leaders in this industry have a "complex", personally and officially, as to publicity; too much of an attitude of complacency and of "Let-us-alone" philosophy. It is not difficult to understand this, because industry and commerce are essentially different from the field of public relations, which calls for entirely different concept, experience, and point of view, requiring a high degree of specialization.

But, an attitude of indifference to public opinion, of arbitrarily ignoring inquiry, is the surest way, in these enlightened times, of inviting snipers and prejudiced critics and unfair treatment.

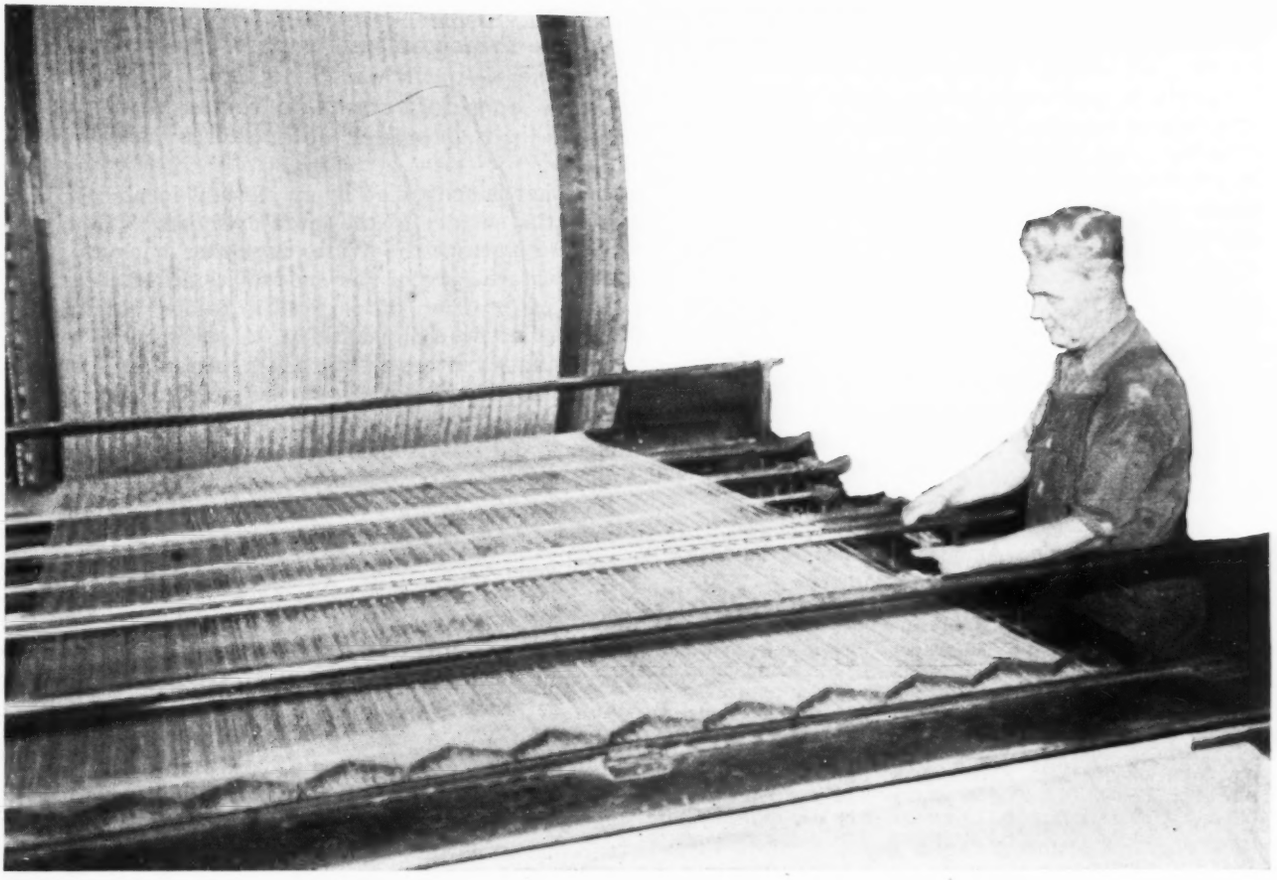
WE KNOW that on the whole the textile industry has reason to be proud of its achievement, of its contribution to this nation's welfare industrially, economically, and in the realm of building a better society, and a better people. Of course there are isolated, off-color spots in this industry, as in any other industry or any other realm of activity, not excluding the political or the literary. But on the whole, the textile industry has a story that could and should be told—one that is almost without parallel in romance and achievement. That story can be told, in a straightforward, constructive and truthful way—and the *Collier's* incident gives point to the necessity of its being done.

We do not suggest, at the moment, the exact procedure. Paid national advertising is one method; but it is not the only one. The first step should be an enlightened conception of public relations on the part of the individual manufacturer—and in his local sphere he can do much good—out of which can come a broad, industry-wide point of view and concerted action. Such a development would, incidentally, produce a wholesome effect within the industry. It would detach from the group those "bad spots" now cited as representative; it would intensify and organize the thinking of the group into consideration of the correction of practices inherent in the industry which provide such fertile ground for the sowing of seeds of malicious slander through misrepresentation and distortion. The mill village system, as an example; born of necessity, operated unwillingly and at a definite loss by most managements—its existence has been responsible for more unjust criticism than any other one cause. It may be that the village cannot be eliminated as such, but there have been demonstrated several methods of improving the system—of more nearly realizing a return on the investment, of putting more of the "equivalent" into the pay envelope itself. For years some of the industry's leaders have given thought to the solution of this problem on purely economic grounds—and earnest study of the matter would be far better than merely to accept the original, traditional problem as inevitable.

The same thing is true as regards the operation of company stores, and the practice of deductions, for whatever purpose, from the pay envelope—which provided *Collier's* with the springboard for its most recent tirade. Admittedly conducted as a convenience to the employees, as a part of the village system, is it not possible that some of the industry's leaders are correct in advocating that these practices be abolished, or at least altered? One thoughtful management has long adhered to a policy of refusing to engage in any activity for its employees—whether in the operation of a store, a moving picture show or any other service, that could be rendered effectively and economically by outside, private enterprise.

REVERTING to the *Collier's* article, most of those commenting upon it have personalized their criticism and directed it wholly at Walter Davenport. The incident is more significant than the expressed ideas of one man, who obviously had pre-conceived ideas of what he wanted to find and then went out and found it. Mr. Davenport is a member of the editorial staff of *Collier's*, a magazine of national prominence and a successful publishing enterprise. Regardless of where or by whom it was conceived, his article was apparently sanctioned by the magazine's editorial board. In its judgment on this article, assuming that the magazine was seeking the facts, is it so strange that *Collier's* or any similar magazine could be easily misled, when the preponderance of pressure on them is critical rather than constructive? Is it any wonder that the textile industry finds itself maligned so frequently, when its major activities in the field of public relations consist in refuting criticism, *after* the criticism has been made?

AN AGGRESSIVE, positive, continuing program of intelligent, constructive public relations for the industry will not of course relieve it of its prejudiced critics. But it can direct public opinion, honestly and effectively, into channels of whole truth and facts and understanding. By providing the facts before the attack, it can lessen the credence given to unwarranted, distorted and prejudiced charges. And an enlightened consciousness of the value of correct publicity, on the part of the individual and the group in the industry, can produce, within its own domain, a broadened understanding and a more intelligent action on its common problems.



Moisture Content Tests from Slashers

By M. R. Harden
Superintendent, Plant No. 4
Erwin Cotton Mills Company, Durham, N. C.

SOMEONE asked me the question one day, "How much moisture is there in your warps when they leave the slasher?" At first this did not arouse much interest on my part because it sounded like a question arising from some sort of whim, but the more I thought about it the more interested I became. One morning as I passed through the slasher room I noticed that on one small cylinder, steam was being given off as the wet yarn was dried. On the machine next to it the yarn was already dry before it left the large cylinder and there was little moisture left to be dried when it reached the small cylinder. There was little or no steam or vapor given off as the yarn passed around this cylinder. It occurred to me to make some tests to determine just what this difference amounted to.

Without changing the conditions at all, I asked the slasher operator to give me a sample of the yarn from each of the slashers mentioned. I put these slashed samples into two glass jars (which had been thoroughly dried), and screwed the tops on tight. These samples were sent to the laboratory and placed in an electric oven where they were baked for three hours. The weight of Sample No. 1 before baking was 12.580 grams and after baking it was 11.617 grams, a net difference of .963 grams. This represented a net loss in weight of 7.65 per cent which was the amount of moisture contained in the yarn leaving the slasher. The weight of Sample No. 2 was 10.580 grams before baking and 10.060 grams after baking, a loss of .520 grams or 4.91 per cent moisture. From this test it was obvious that there was a wide variation in the amount of moisture left in our yarn at the slashers.

Our slashers had controls on the size box and steam pressure gauges on the cylinders. We also had tachometers on the measuring rolls to give the yards per minute that we were running. With the exception of some of the size box controls being slightly out of order, the other instruments seemed to be all right. We did not like the type of controls

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Note: This discussion prompts us to caution the reader to remember the difference between moisture content and moisture regain. Moisture content expresses that quantity of moisture in the material as a percentage of the total weight of the material. Moisure regain expresses that quantity of moisture as a percentage of the bone dry weight of the material. In this discussion the percentages are expressed as parts of the total weight of the yarn as it comes from the slasher, *before* it is bone dried. Thus if a sample from the slasher weighed 10 grams before bone drying and 9 grams after bone drying, the moisture content would be 10 per cent.—The Editors.

that we had on our size boxes, however, and we put new controls on these points as well as on the cylinders. In buying the cylinder controls we were fortunate in previously having made tests on moisture content because we found that steam PRESSURE on cylinders was misleading. For instance, it would be possible to have one slasher with two pounds of steam pressure actually drying the yarn more than another slasher with 10 pounds of pressure. In other words, the temperature of the surface of the cylinder seldom, if ever, runs in direct proportion to the steam pressure recorded within the cylinder.

In buying the new controls, we therefore selected one which regulated the influx of steam from the changes of the surface temperature of the cylinder; we tried to secure a uniform surface temperature on all of our cylinders. Then we made tests with the following results:

Tests to Determine Amount of Moisture in Yarn as It Comes from Slashers

No. 1 Slasher

Wt. from	slasher	12.580 grams	Put in oven at 9:35
Wt. at	11:00	11.650 grams	7.39 per cent moisture
Wt. at	12:00	11.617 grams	7.65 per cent moisture
Wt. at	2:00	11.617 grams	7.65 per cent moisture

No. 2 Slasher

Wt. from	slasher	8.755 grams	Put in oven at 10:25
Wt. at	12:00	8.185 grams	6.51 per cent moisture
Wt. at	2:00	8.170 grams	6.68 per cent moisture
Wt. at	3:00	8.170 grams	6.68 per cent moisture

No. 3 Slasher

Wt. from	slasher	12.285 grams	Put in oven at 2:30
Wt. at	3:45	11.635 grams	5.29 per cent moisture
Wt. at	5:30	11.570 grams	5.82 per cent moisture
Wt. at	9:00	11.580 grams	5.73 per cent moisture
Wt. at	9:30	11.600 grams	5.57 per cent moisture
Wt. at	10:00	11.595 grams	5.62 per cent moisture
Wt. at	11:30	11.590 grams	5.65 per cent moisture

No. 4 Slasher

Wt. from	slasher	10.580 grams	Put in oven at 3:50
Wt. at	5:45	10.060 grams	4.91 per cent moisture
Wt. at	9:00	10.055 grams	4.95 per cent moisture
Wt. at	9:30	10.060 grams	4.91 per cent moisture

No. 5 Slasher

Wt. from	slasher	8.630 grams	Put in oven at 2:50
Wt. at	3:45	8.190 grams	5.1 per cent moisture
Wt. at	5:30	8.185 grams	5.15 per cent moisture

These tests were interesting but something was lacking. The reader will notice that there was too much variation between the percentage of moisture retained in the sample from No. 1 and No. 4 slashers. We found after some checking that the trouble was coming at the time the beams were doffed. The control we had installed on the cylinders operated well except when the machine was stopped to doff, at which time the steam pressure would rise. This, we think, was no fault of the new controls but was because in a still position the heat did not act as quickly on the governing element of the controls and thereby the steam continued to flow some instead of being cut off at the proper time. This trouble was overcome by putting the Watts regulator back into the line just in front of the new control. These regulators did not interfere in any way with the operation of the other controls because one is mechanically worked by the shipper lever on the machine and

It is a long jump from a steam pressure gauge to complete temperature control for slashers—but it was done here. The author now considers complete temperature control the only proper method of drying warps.

the other is controlled by an element located ⅜-inch from the surface of the large cylinder. The advantage in putting the Watts regulator back in place was to take care of the sudden rising of the steam pressure on the cylinders while doffing because the shipper lever completely cut the steam off at the time the machine was stopped to doff and opened it again when the machine was started. From this point on until the next doff the regulation was performed entirely from the thermostat in the new regulator, the Watts regulator being wide open.

With this trouble corrected we felt sure we were on our way to perfectly dried warps, but no such good luck. We soon found that after all of our efforts. the slasher man still held the key to the situation. The temperature control which we installed had a lever on which the operative could slide a weight up and down to locate the temperature at which a new set was to be dried. Once he found the right place he would tighten the thumb screw in the weight and the same temperature would be maintained until the set was finished. This gave us the same temperature throughout the set but it did not necessarily have to be correct at *any place* in the set. It all might have been too dry or too damp. To correct this difficulty we installed on each slasher a recording instrument which gave us a penned recording of the temperature on each machine. (We now have gone all the way from a steam pressure gauge to a complete temperature control, the only correct way in our opinion of properly drying warps.)

Our next problem was to arrive at a method whereby our slasher operators could tell exactly how to start their sets at the right temperature and maintain it throughout the set. The controls would *keep* them right if they were *started* correctly. After making several tests we were able to arrive at a correct solution for this trouble. We dried out many samples from each slasher and determined the speed and temperature at which each style would dry to retain the proper amount of moisture. A copy of the uniform table of speeds and temperatures was posted under a glass at each regulator and the slasher operator could set his control at the correct temperature and keep it maintained throughout the set.

I believe that the correction of the common evil of over-drying warps on the slasher will do more to insure better weaving than anything else. So many of us go along day after day baking the "life" out of the warps on our slashers and then expect them to regain this moisture and subsequently, strength, in the short time of exposure to the humidifiers. It can never be corrected once the size is baked hard around the outside of the yarn and then the moisture dried out, as if in a dry kiln.

Try running some tests tomorrow and see how much moisture is being left in your warps. There will be some surprises at the results.

International Loom Statistics

By J. F. Culpepper

THERE were 3,070,395 power looms in the world capable of weaving cotton at the beginning of 1937, according to the *International Cotton Loom Statistics.** Which figure is neither greater nor less than we expected; in fact, we didn't know or have any idea before reading this report. And this figure of 3,070,395 total looms capable of weaving cotton does not include those looms weaving fabrics less than 16 inches wide, except in the case of Japan which has 109,000 looms only 15 inches wide out of a total of 332,564; with just about a third of the looms being on narrow fabrics.

It is interesting to note that the United States has 573,452 looms of this total, or approximately 19 per cent of all the looms in the world. Next, of course, comes Great Britain with 504,773 looms, followed by Japan with 332,564 (but as mentioned previously this figure includes a number of narrow looms whereas the figures from the other countries do not).

South America, about which there have been so many textile growth rumors, has only 96,023 looms, Brazil having nearly 81,000 of these. Colombia, Venezuela, Chile, Ecuador, Bolivia, and Uruguay have a combined total of 7,028, or just about as many looms as one plant located in South Carolina. Peru and Argentina, next to Brazil, have the most looms in South America with 4,446 and 3,646 respectively. Only 6 per cent of the Brazilian looms are automatic.

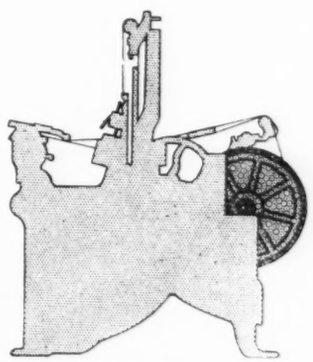
Russia has a total of 250,000 looms, Germany 200,500, France 193,900, and Italy 146,500. Czecho-Slovakia, which is now threatening our markets on certain fabrics, has 104,180. Other European countries vary in number of looms with from 66,586 in Spain to 136 in Lithuania. The European total is quite significent in that there are 1,742,202 looms, which is approximately 57 per cent of all those in the world.

Asia, including countries latitudinally from Japan to Palestine, has nearly 600,000 looms or nearly 20 per cent of the world's total. India and Ceylon, of which textiles is a mainstay industry [see article on page 48 of July 1937 issue of COTTON] has 201,548 looms, or practically the same number as Japan, with the exception of the narrow looms.

Automatic and Non-Automatic Looms

A Further break-down of the totals show some interesting figures concerning the number of automatic and non-automatic looms. In this case, looms having automatic attachments will be considered as fully automatic. Of the 3,070,395 looms in the world, nearly *77 per cent are non-automatic.* The United States has 392,329 automatic looms or *nearly 60 per cent of the automatic looms of the world*—with but 19 per cent of the world's total loomage. We think this is noteworthy.

In Great Britain 96 per cent of the looms are non-automatic. It is understood that the trade unions of Great Britain resist the use of automatic looms. Germany has 85 per cent non-automatic looms, Russia 86 per cent, France 79 per cent, and Czecho-Slovakia 97 per cent non-automatic looms, all of which is fairly indicative of the 88 per cent non-automatic looms in Europe. Asia has nearly 90 per cent non-automatic looms, Japan's figure being about the same with India and Ceylon having nearly all non-automatics.



There are less idle looms now than there were in 1933. Only 12 per cent of the European looms were idle at the beginning of 1937 as compared with nearly 18 per cent at the end of 1933. In the United States at the beginning of 1937 there were about 8 per cent of the looms idle; at the end of 1933 there were no figures on idle looms available. Neither was there information at either time concerning the idleness of looms in Asia. According to the figures, the South American mills continued to run almost *in toto* both in 1933 and at the beginning of 1937.

Few figures were available concerning the erection of new looms. Throughout the entire world only 12,175 looms were reported as being erected as of January 1, 1937, though the returns are not complete; it is assumed that many more than this figure were being erected. Strangely enough, there were more looms being erected (according to the returns) in 1933 than at the beginning of 1937, but again the returns were not complete so little importance can be placed upon these data.

It was estimated that about 46,000 looms or 8 per cent of the looms in place in the United States are running rayon. In other countries a small percentage of the total loomage is on rayon, and cotton-combination fabrics.

BEAR in mind that this report applies only to looms capable of weaving cotton goods. It does not include looms especially designed for running fabrics of silk, wool, linen, etc. The total number of looms in the world shows little change, an increase of 10,526 from 1933 to 1936. The United States and Great Britain show decreases in loomage, which are offset by gains in Russia, Japan, China, India, etc. The proportion of automatic looms to non-automatic looms in Europe appears to be increasing with remarkable steadiness . . . . . .

*Published by the International Federation of Master Cotton Spinners' and Manufacturers' Associations, 26 Cross St., Manchester 2, England.

This night photograph in a Georgia mill was made to show the poor lighting secured from the bare single globes used before lighting modernization. Contrast this with the view at the top of the next page . .

BETTER MILL LIGHTING

NEARLY every issue of our many technical and trade papers for the past several years has carried in either the advertising, editorial or news section a treatise on the virtues of increased lighting, well couched in language of the Science of Seeing, increased foot-candles, greater illumination, high intensity lamps, ultra violet rays, infra red, all properly supported with graphs, charts, and curves to prove increased lighting will increase production to a point where a handsome return may be expected on the capital investment necessary to relight the mill.

To the man with an engineering mind or a technical background the advantages of better lighting are manifest. To Bill Jones in the mill office who holds the purse strings, most of what is being said about better lighting may not be so obvious. In his language it is sales propaganda competing for his dollar. He is not "light conscious," there is no special reason why he should be. His problems have been legion for several years back. He knows of many places in the mill where he can invest his capital which are far more important to him than a relighting job. One process picking, long draft spinning, high speed warping and spooling, etc., are tangibles; he can visualize a return on these investments, an improved product and decreased manufacturing costs. The return on the investment of capital for better lighting is to him an intangible and he reasons one can't meet dividend requirements with intangibles.

Bill Jones has spent thousands of his company's dollars to make improvements in his village, to build churches, schools, hospitals, auditoriums, dairies, etc., and continues to spend more thousands of dollars each year on their maintenance and upkeep. Bill Jones won't let his mind dwell on the intangibility of these investments; he reasons they are necessities for the spiritual, educational and physical being of his associates in the mill. Expense is not a factor to Bill Jones when the subject of improved health or increased productivity of his co-workers is being discussed.

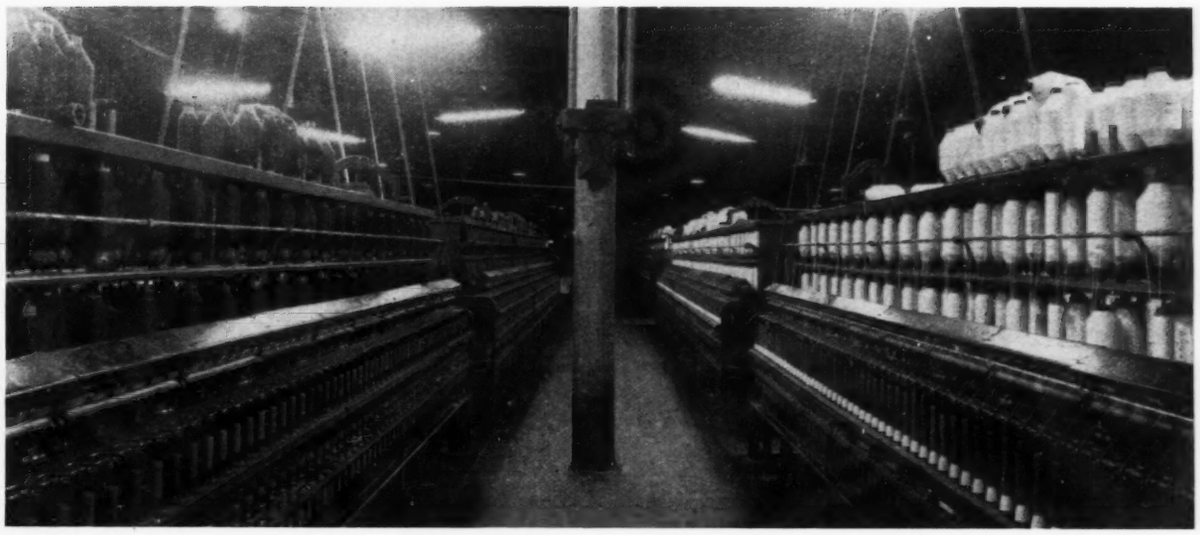
Bill Jones has a vague remembrance of sometime somewhere of hearing someone mention the term Science of Seeing; it is nebulous to him, it didn't register. Bill Jones can tell you right off the bat his percentage of waste, his percentage of regain, ends down per thousand spindle hours, loom stops, and actual loom production against Theoretical. He knows exactly the relation of these components to total cost. He does not know, and has no conception, of the close relation the Science of Seeing bears to the total cost of a pound of goods produced.

While Bill Jones realizes he employs hands and arms and brains in his

By Edwin M. Clapp and C. M. Wallace, Jr.

Mr. Clapp is power sales engineer of Georgia Power Co., and Mr. Wallace is lighting engineer, Atlanta division, of the same company.

THE difficult assignment of handling a technical subject in a non-technical manner is achieved in this article. Without more than mention of foot-candles, intensities, etc.—without curves or graphs—Mr. Clapp and Mr. Wallace present in an interesting, easily-absorbed discussion a forceful argument for better light in the mill . . . .



This photograph was made from the same spot as the one on the previous page. Note the remarkable improvement resulting from modern lighting, in this case an installation of mercury vapor equipment . . .

—an Investment that Pays Dividends

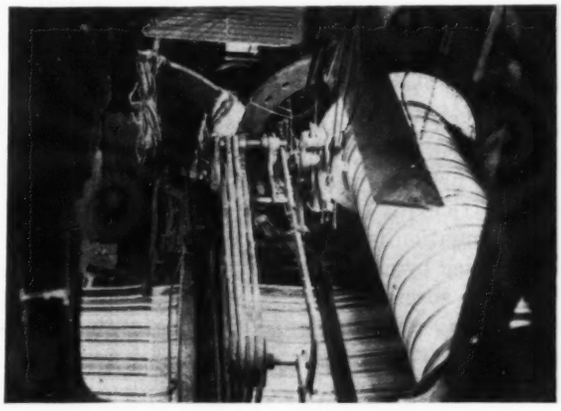
plant, he forgets the one tool every employee uses is his *eyes*. The mill provides playgrounds, gymnasiums, etc., to assist in keeping these hands, arms, brains and bodies in first-class physical condition, but what does Bill Jones do for the *eyes* he employs, the *eyes* in which the mill has a large investment and cannot be replaced? As a general rule Bill Jones does nothing.

Bill Jones' employees, when they are using the outdoor recreational facilities of the mill, are using their *eyes* for relatively simple visual tasks under levels of illumination varying in intensity from 1,000 foot-candles in the shade of a tree, to 10,000 foot-candles beneath the sun and clear sky. What does Bill Jones find when he takes these same *eyes* into the mill to perform intricate visual tasks in the weave shed, in the cloth room or the spinning room—values much lower and far below the standards for safe seeing conditions.

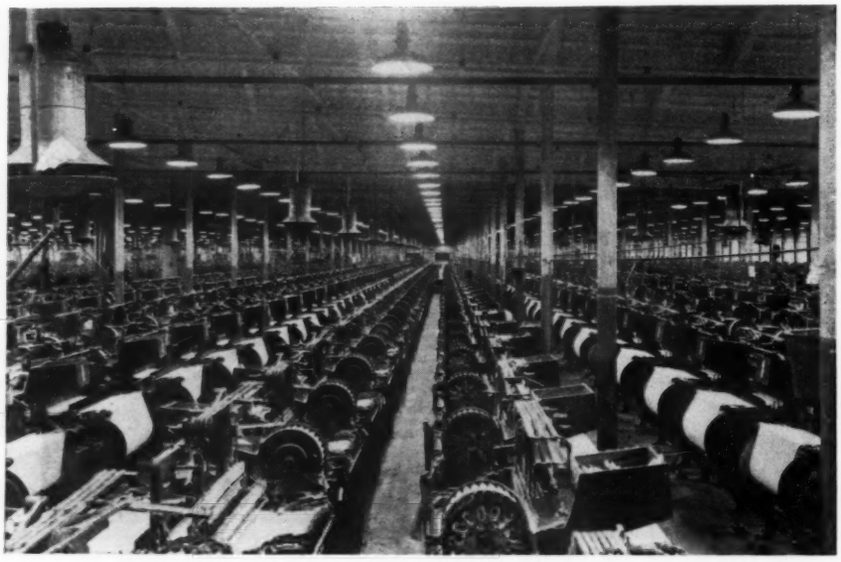
A recent survey reveals the average light intensity in industrial plants throughout the United States is only 3 foot-candles. Is it not logical to assume that something is radically wrong with the lighting in our industrial plants and that beneficial results would be obtained if we improved this vital and most essential tool used in every operation?

A workman's ability to perform his particular job quickly and efficiently depends upon his ability to *see*. There are three components which affect vision—the *task*, the *eye*, and the *light*. Under present methods of performing work the *task* is more or less fixed; the *eye* if not normal can be and should be corrected with glasses, after which this component becomes constant. Therefore, the only variable component in this equation is *light*. Light thus becomes of such importance it influences the efficiency of Bill Jones' employees, affects their health and morale, and may be great asset or a heavy liability.

Twenty-five per cent of Bill Jones' young people are suffering from defective vision, and approximately 75 per cent of his people are visual cripples at the age of 50. Bill Jones should know the pupil of the *eye* becomes smaller as we grow older and therefore we need more light in order to see with the same ease and ability. Suppose, for example, Bill Jones has two weavers working side by side, one of them young with normal vision, the other a person approaching middle age, yet an old employee of the company. The mill has an investment in its older employee—much more so than in the younger employee—yet with working conditions being equal the younger employee will turn out more work than the older experienced hand. The mill can realize on its investment in training and experience of the older employees by doing two things which will place



A good example of specialized lighting, on Jacquard weaving, which requires excellent localized as well as general lighting . . . . .



At left, an excellent installation of incandescent lighting in the weave room of a large southern mill. Below, up-to-date lighting in the knitting department of a Georgia full-fashioned hosiery mill . . .

◆ ◆

"There are three components which effect vision—the task, the eye, and the light. The task is more or less fixed; the eye if not normal can be and should be corrected with glasses, after which this component becomes constant. Therefore, the only variable component in this equation is light—which may be a great asset or a heavy liability."

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them on a par with the younger ones insofar as visual acuity is concerned, i. e., first, have all employees' eyes examined, their vision corrected by glasses, if found necessary; and secondly, build up the intensity of all lighting to recommended standards for the particular type of work being done.

The Requirements of a Good Lighting System

Assuming Bill Jones has taken the first step and has had all his employees' *eyes* examined, what then should he do to keep these *eyes*, these priceless tools, permanently sharpened and working efficiently? The final component in our *task-eye-light* equation is *light*, this important variable can be ascertained by checking the lighting in Bill Jones' mill, giving special attention to the several points contributory to good lighting, and then making the changes necessary to achieve these results. The three requirements which must be present in any good lighting system are: 1, Correct amount; 2, proper direction; and, 3, suitable quality of light supplied.

This, however, is not the whole story because a system of general illumination should be supplemented by special localized or "plus" lighting for those operations requiring an extremely high intensity such as inspection tables, drawing-in, and similar intricate tasks. We should, therefore, have good general illumination and supplementary specialized illumination keeping within a ratio of ten to one, i. e., if the special work requires 50 foot-candles there should be at least 5 foot-candles of general illumination in the surrounding working area. Through many years of experiment and investigation certain standards of intensity have been established for every type of work in the mill, these values should be adhered to as closely as possible for most efficient operation.

Aside from the humanitarian premise, corrected vision and proper lighting will result in: Improved morale, better quality of product, reduction in seconds, increased production, and fewer accidents.

Bill, if you think we are "spoofing" and the foregoing factors are intangibles which won't pay out, ask the man who has followed our counsel and heed what he says.

Pointers on Rayon Weaving

By Amos Winn

MORE AND MORE textile mills that formerly manufactured fabrics and yarns from only cotton, silk, or wool, are now entering wholly or partly into the production of rayon goods. When a mill first begins to use a new raw material, information is sought concerning the manufacturing details, but often little is available; when a plant has discovered a method of running the stock, it is loath to give out any details. This is not true of a fiber after it has been in use for a number of years and after the methods of manufacturing are quite standard. However, with rayon, there still has been little information giving the finer points of manufacture, but through the various associational meetings, trade papers, and personal contacts, the mill men are now beginning to realize that an exchange of ideas will prove beneficial if the discussion is brought into the open. With this thought in mind, I will endeavor to describe a few pointers in the production of rayon goods that may prove helpful.

"The less handled the better" would be a worthy slogan for any rayon man to keep in mind. Rayon, like cotton, consists of a number of fine fibers, but unlike cotton, these fibers are not twisted together, but lay in a comparatively straight line, though being stuck together in such a manner that undue strain or excessive handling will cause them to fuzz.

The winding of rayon should be checked to see that there are no rough places or grooves in the porcelain guides on the winders. The rough edges will cause the tiny fibers to become weak or to break and much trouble will be encountered in the weaving process. These guides should be inspected periodically because the constant running of yarns through them will make grooves in the porcelain and should larger yarn be run later on, it will not fit the grooves, thereby causing damage both to the yarn and to the guides. The swifts must be weighted uniformly and weighted the proper amount so that undue strain in the yarn will not develop.

On the warper each spool should have an even pull but should have enough weight upon it to stop turning when the warper stops. Rayon is capable of taking just so much stretch, and as much strain will be placed upon it in weaving, it is better to have as little strain as possible at the warper and later at the beamer. If the yarn is stretched too much at these points it becomes dead and the fibers break easily, making it fuzzy in the weaving. Some foremen consider that the use of much weight at the beamer makes money for the mill because the yarn is stretched, thereby acquiring more yardage, but a close examination will reveal that this gain in yardage is not compensated for in the weaving where the yarn has become fuzzy, causing loom stoppage and poor material.

Weaving Rayon

For the weaving of rayon, the loom must be in first class condition. The pick must be smooth, the timing right, the sheds operating properly, and the shuttles must not be dragging the warp. In the first place, the loom should be level and the boxes lined with a straight edge so that the shuttle will have a true course from box to box. The race plate must be covered with some material to protect the yarn from chafing; such fabric as billiard table cloth or corduroy will serve admirably. It might be added here that the addition of the cloth to the race plate will cause the box plates to be lower than the race plate. This may be remedied by packing cardboard under the box plates to bring them to the proper level. The thickness of the race plate covering should be uniform because otherwise when the covering is replaced the end lay plates and race plate will not be in line; it should not be necessary to reline the box plates when the fabric on the race plate is changed.

The sand roll should turn smoothly and with no lost motion at the journals. Should the fabric to be run have a rayon warp and cotton filling, a tin fillet can be used as covering because the cotton filling will prevent the rayon from sticking to the tin, but if the cloth is to be all rayon then it will be necessary to use rubber or sandpaper as a covering to

ALSO POINTERS ON PRELIMINARY PROCESSES; PORCELAIN GUIDES; WEIGHTED SWIFTS, ETC.

prevent the small punctures that the tin fillet would create in an all-rayon fabric. These punctures might not be noticeable until after the cloth has been finished. In the event that a tin sand roll covering is used, the fixer may be instructed to put the tin on backwards—so that the pull of the tin is in the same direction as that in which the sand roll turns. There are a few fixers who do not know that there is a right and wrong direction for covering a sand roll; this may be determined by running the hand over the fillet in both directions.

The weaver should be cautioned, where tin fillet is used, never to lay the shuttle on the sand roll, and never to press a quill of filling into the shuttle with the shuttle resting on the sand roll as this will injure both the shuttle and the fillet. It will also damage the cloth that is at that time passing over the sand roll.

Generally speaking, the smooth cork temple roll or the spiral roll should be used. The regular cotton temple rolls with steel points may be used if the points are removed; however, there are fabrics upon which it is necessary to use spiked temples, and in such cases, if most of the filling is on the face of the cloth, the cloth should pass under the roll, placing the points where most of the filling is; conversely, if the filling is on the reverse side of the cloth, the fabric should pass over the temple roll so that the spikes or points will strike it there also.

Setting the Shed on Rayon Goods

Much can be said concerning the setting of the shed on rayon work. On cotton goods the shuttle literally can be forced through the shed but on rayon it must pass through freely. There can be no pushing through or dragging in the boxes. A shuttle doing either will cause the rayon to fuzz at the point of contact, and weaving under such conditions is practically impossible.

An overseer of weaving once took over a Jacquard job on high sley mercerized warps, running pick and pick. The work ran well enough until he was told to put some rayon warps on the looms. The rayon warp was kept in a fuzz all the time because the shed closed on the shuttle before it had completed its flight across the lay. It was discovered that the loom had all the shed possible under the present set-up, but the head was not directly over the center of the loom. This fault was corrected by moving the loom back one inch, but while doing so the comber board was fixed so that it remained in its same position. After the change the shed opened wider and the shuttle passed through freely. In another instance the yarn was fuzzing on one end only. Examination showed that the loom was picking a trifle late from the opposite end which allowed the shed to close on the shuttle before it was into the box. This was corrected easily enough, but it does show the care with which the looms must be fixed when running rayon.

The shuttles must be absolutely smooth and without any sort of a rough spot on them. To determine if a shuttle is smooth, hold an end of rayon between the fingers and pass it along the shuttle. If the rayon fuzzes at any place then the shuttle is rough; it should be sandpapered and then coated with shellac. I have found it a good practice to coat a shuttle with shellac every time the warp runs out. The shellac will fill up the cracks and help prevent the shuttle from splintering.

Some of the most common defects in rayon weaving will be touched upon. As stated previously, the main one is not having the shed open wide enough, late or early picking, or the loom not picking the shuttle properly. The reader should be cautioned against having a shed that is too wide as this is just as great an evil as too narrow a shed. The more shed a loom has the greater is the strain on the yarn and this strain will cause the component fibers of the rayon yarn to break, thus weakening the yarn itself. A shed that opens too wide will permit the upper shed ends to be struck by the lay on the backward stroke, also fuzzing the yarn and beating the size from the warp, causing streaks in the cloth.

Even a small rust spot on the reed will give trouble and any roughness will have the same effect. Reeds for running rayon must be in perfect condition. On the subject of reeds, there are some types of weaving in which black specks may be noticed in the cloth. Close inspection will reveal that these specks are only in the warp and only at a knot in the warp. There is usually a black residue collected at the top of the reed and when the warp knot is in the reed, it is sometimes forced to the top of the reed because of increased resistance and the black specks are accumulated. This condition is not prevalent on all rayon goods, but is mostly found in heavy weaves that tend to make the reed vibrate. If the weaver will remove the reed cap, when the cloth is at a cut mark, and pass the reed up and down through the warp, the black residue will be removed and the soiled place in the fabric may be cut out in the cloth room.

Rough harness eyes and heddles, and high or low harness will cause the rayon to fuzz.

A whip roll that is too small will do much damage to rayon. The roll should be large enough so that when the warp is passing from the loom beam to the harness, the angle in going around the roller will not be so acute as to cause the rayon to crack and the fibers to separate. There should be a longer distance from the whip roll to the harness on rayon than on cotton goods. This condition may be arrived at by having extensions fastened to the whip roll stands.

Wavy cloth is more predominant in rayon goods than in cotton goods, and the defect is much more noticeable, especially when a tightly woven fabric is made. The beam flanges should be smooth if the chain or rope let-off is used. If the chain passes around the beam flange twice, either the beam flange should be wide enough or the chain small enough so that the chains will not overlap. There should be no lost motion in the chains. I have found that a bit of flake graphite sprinkled on the chain of a beam that is jumping will alleviate the condition and make the beam run smoothly.

To sum up the subject of rayon weaving, the main thought is to have the loom in as good condition as possible. A loom can be forced to run on cotton goods, but it must be *fixed* to run on rayon.

Something of the Origin of Some of the
NATURAL TEXTILE GUMS

By George W. Searell
Jacques Wolf & Company

NATURAL GUMS, which are truly dried saps of plants and trees, find many applications in textile finishing. I shall endeavor to give a few facts regarding their origin, gathering, and marketing.

The textile trade uses four basic gums: Locust bean gum, tragacanth, karaya, and arabic.

Locust bean gum is manufactured from the seeds or beans of the locust tree. In grinding these seeds, the husks of the seeds are first removed by abrasion, and the yellow outer gum eliminated, then the cleaned husk-free seeds are ground or milled to the desired mesh of 50, 100, 150, or 200, as the case may be.

Locust bean gum is used as a sizing and finishing material in a water solution which, upon drying, gives a transparent, flexible hand, and is also partially water-repellent.

Gum tragacanth is the product of plants which grow wild in the mountains of Iran (Persia) and Turkey—there is practically no supply in the United States. Its sap works out in a ribbon-type structure from the main stem of the plant and branches. The plants grow in sandy crevices of mountain rocks and require little or no moisture. The gum is used either whole or granulated or powdered. There are two general types, Aleppo (or ribbon) and Persian (or flake) and a number of grades of each.

WE FEEL that many readers in the textile industry, which uses in large quantity and variety the several basic gums in printing, finishing, sizing, etc., will be interested in this brief description of the origin of these products in foreign lands.

The article is not at all technical, and provides much interesting information on the origin, gathering and marketing of the four major basic gums—locust bean, tragacanth, karaya, and arabic. Textile men familiar with the final product will find here a description of whence these materials come, in remote places in other parts of the world.

Gum karaya is an exudation from trees of the family *Sterculia Urens,* a native tree of India, which is found chiefly in Gujerat, the central provinces, and to some extent in the Central India Agency. India knows this gum also as kadays, katila and kulloo, while commercially it is known as India gum tragacanth or India gum. This latter term, however, should not be confused with Indian gum, which is an alternative name for gum ghatti and is so recognized in the British pharmacoepia.

The trees grow in large forests, most of which are government-owned, although great numbers grow on the estates of large land owners. They reach a height of 25 to 30 feet, and their huge trunks are a soft, corky structure which cannot be used for burning.

Except during the rainy season, the gum is obtainable at all times, and is therefore usually collected by the natives at such times as there is a scarcity of farm work. The best quality, however, is obtained during the hot weather which envelops the country from March to the middle of June.

Gum karaya is collected solely from the trunk of the tree, in which the natives make incisions about two feet long, and deep enough to reach the heart wood. Usually, five or six incisions are made in each tree, and the sap or juice oozes out, collecting in large, irregular knobs in these incisions. In about three days, these knobs are dug out and new accumulations grow in the same wounds. If the gum is not collected at these intervals, the wounds heal and new incisions must be made. After "bleeding" for 8 or 9 months, the tree will yield no more gum for two or three years when it can again be tapped in new places.

The gum is collected in large baskets by the natives, and is then placed in bags and taken in bullock cards from the forest to the villages, where it is collected by the merchants who sell it to the dealers in Bombay. It is here the sale to the world is controlled effectively.

All sorting and grading is done in Bombay, usually by women, who break the large lumps with stones and then sort these broken pieces into piles according to color, etc. The grades run from dead white bald pieces to which no bark adheres down to small reddish-brown pieces with large amounts of bark. These piles are accumulated into large ones and the final packing and weighing is done from them.

In industry, the chief use of gum karaya is in the utilization of its enormous swelling power when put in water. A teaspoonful placed in a glass of water for a few hours will fill the glass with a solid jelly-like mass. This characteristic is very similar to the action of gum tragacanth.

Its solution, however, differs in structure. Karaya does not show a starch reaction when tested with an iodine solution, and has an acetic acid odor and reaction. To make a coherent jelly, the gum must be powdered to between 100 and 200 mesh as a larger mesh grinding results in a jelly in which each of the swelled particles are distinguishable, while a very fine grinding tends to weaken the swelling power.

The uses of this gum in the textile industry are many. It is used as a printing gum, as a filler, as a

sizing agent, and for many other purposes.

Gum arabic is the gummy exudation of Acacic Verek, and of the 400 or more known species of the Acacia family, about 25 are to be found in the Sudan. It has been known and used since ancient times, being employed by the Egyptians in the making of paint colors 2,000 years B. C. It has been an article of commerce since the first century A.D., and since it was shipped to Arabian ports and thence to Europe, received the name of gum arabic.

The Acacias are the chief constituent of the thorn forest of the arid zone which stretches across Africa from Abyssinia in the East to French Senegal in the West, chiefly between 12 and 13 degrees latitude. The best of the gum and the large majority of the crop come from the province of Kordofan, although large quantities also come from Gedaref, Gezireh and Gallabat, but this is not of such good quality. Gum Senegal also is shipped from the French Senegal and is very similar.

In the Sudan, the trees grow to a height of from 12 to 15 feet, have a light gray bark and small feathery foliage with dark hooked thorns. Being a leguminous tree, it is used much by the Arabs in the reclamation of waste land worn out by excessive cultivation. It is often cut down by the natives to make thorn fences for corraling animals. It also affords fine grazing for camels, which appreciate the tender shoots. It is not raised much from seed, but is propagated by natural regeneration. The life of the tree is about 25 years, after which it usually succumbs to the attack of various insects and is finally destroyed by white ants. Growing in the sandy waste of this arid region it has to struggle for water, and its long lateral roots are often as long as 20 feet.

How Gum Arabic Is Gathered

The gum picking season starts after the rains are over and continues until the beginning of the next rainy season—or approximately from October to May or June. The total rainfall governs the size of the crop, in a great measure; after a season of heavy rain the crop will be small, and vice versa. The time of starting the tapping is governed to a great extent by the temperature following the rains; if it is hot the leaves will wilt and fall and the season will start.

The tapping is done as follows: The native cuts off the lower branches of the tree, then nicks the tree with his axe, taking care to cut just under the bark and not into the wood. He then lifts the edges of the nick and pulls one up and the other down the tree until they break off. If the weather is hot, the gum starts exuding and in about three weeks to a month there will be sufficient gum to collect. If the weather is cold, a much longer time is required. The gum does not exude all along the wound, but only in spots along it, and forms tears which are crystallized by the heat. When the native sees there is sufficient gum for collecting, he starts doing so and goes out at intervals of a week or so until the season ends. The women help in the collecting but do not do the tapping.

If the Arab owns a camel, he takes the gum to market; otherwise he sells it to the owner of a camel. Formerly, the sale of the gum in the market was a very crude arrangement, oftentimes the buyer would use his leg which he said weighed as much as the weight in one of the pans of the scales. Since 1922, however, the government has supervised the auctioning of the gum in all the markets, and the procedure now is as follows:

When the Arab arrives at the market he is given a ticket with the number of the lot in which he is to place his gum. A record is also made on a form of the number of the lot and the Arab's name. At a certain time the gates of the market are closed and a government clerk opens the auction, starting with Lot No. 1, and so on. When bidding has ceased, the owner of the lot is asked if he will sell at the offered price. If so, the price is entered on his ticket and the form filled out. At the end of the auction the gum is transferred from the Arabs' skins to the merchants' sacks and weighed by the government clerk in the presence of both buyer and seller and the calculation is made. The buyer then must pay the seller. The auction seldom takes more than an hour and everyone is satisfied, whereas under the old system sales sometimes took all day.

After the weighing the merchant takes the gum to his own sheds, where it is cleaned, usually by pilgrims on their way to Mecca, and is then put in double sacks and sent by rail to Port Sudan and thence to the markets of the world.

It is interesting to note that gum is obtained only from the trees when they are in an unhealthy condition. A healthy tree growing in a spot near water or on well fertilized ground will remain in leaf almost all year and if tapped, the wound heals quickly and no infection occurs. The gum is supposed to be the result of a bacterial infection of the wound which occurs when the tree is unhealthy. The method by which the infection is induced seems to be a matter of varied opinion among authorities, some holding it to be from flies and ants that swarm over the new wound; others advancing different theories.

Gum arabic has a number of well known uses—in the textile industry it is largely employed both as a finishing agent and in printing. The total consumption amounts to 15,000 to 20,000 tons per year, of which the United States uses at least one-fourth.

Consider These Facts

1. A rise in temperature causes a drop in relative humidity. A rise of 10° F. will cause a relative humidity drop of 25%; a rise of 20° F., a drop of 50%; a rise of 40° F., a drop of 75%. These figures are approximate.

2. A reduction of the relative humidity in the surrounding air increases the rate of drying (the rate of evaporation of water) of a product.

3. An increase in the exposed surface area of a product increases the rate of drying.

4. A drop in temperature increases the relative humidity with resultant danger of condensation.

5. A more rapid movement of air over the surface of a product increases the rate of evaporation of moisture and thus speeds up drying.—*Foxboro.*

Methods of Fixing Looms

(Article 5, The Let-off Motion)

By B. H. Hawkins

THE LET-OFF MOTION is one of the most complicated motions on the loom, and one about which very little is usually known by the average loom fixer. I have yet to come in contact with the loom fixer that knows the names of all the parts of the let-off motion. You are probably saying, "That isn't very important", yet to understand the relation of each and every part of this motion to some other part of it requires definite knowledge of the parts and their relation to each other. And unless one understands the relation of these parts it will be almost impossible to repair accurately and set up this motion in any way other than haphazardly.

The let-off motion has a certain duty to perform while the loom is running and the filling is being inserted. It has another duty to perform while the shuttle is in the box. The let-off motion might well be known as a variable motion because the amount of let-off varies with the amount of yarn on the loom beam. Its other operations vary with the settings and timings of other parts on the loom.

Suppose we first consider the settings of the beam lever and the controlling lever link in connection with the controlling lever and the pallet lever when a full warp beam is on the loom. I am using the full beam as it will be easier to show these settings and their connections so that they can be easily understood, also these settings are usually made when a new or full beam has just been tied on the loom.

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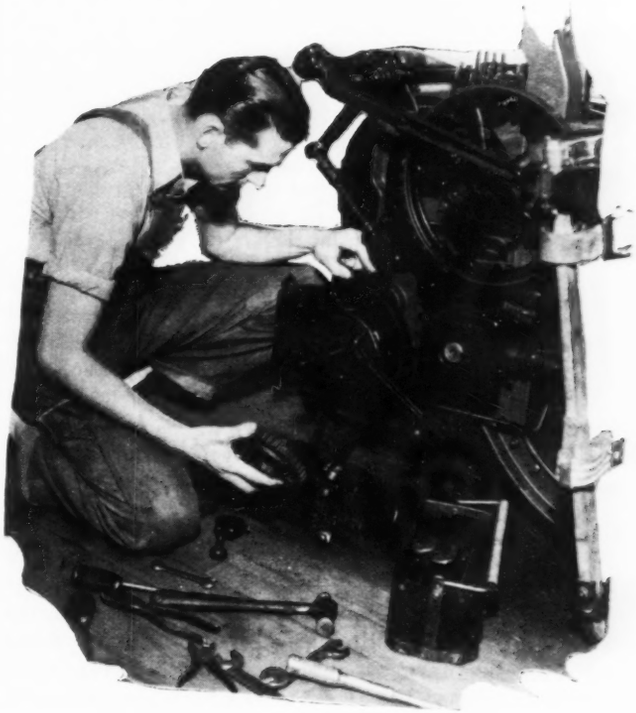
THIS is the fifth installment of a series on practical loom fixing methods. The first appeared on page 43 of the July issue, the second on page 72 of the August issue, the third on page 78 of the September issue, and the fourth on page 50 of the November issue.. Thus far the picking motion, parallel motion, the setting of the harness, the beating-up motion, cover on the cloth, the protector motion, boxing the shuttle, button-hole selvage, replacing and inspecting the shuttle, making the lizard crawl, and numerous fine points have been discussed. This article takes up the let-off motion, the take-up motion, and touches on system in the mill. The author offers his statements as the opinions of many men, supplemented by what he believes to be the most suitable method of fixing looms. Copies of the foregoing installments are available . . . . . .

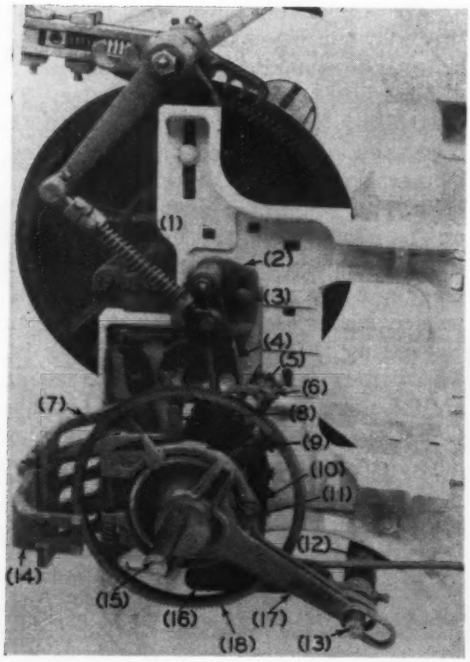
The controlling lever and pallet lever are made so that when fitted together they form, in a general manner of speaking, a parallelogram that has been divided into equal parts lengthwise. The ball of the controlling lever link works half in the controlling lever and half in the pallet lever and serves as a connection between these two parts. With a full beam and the beam lever resting against the yarn on the beam, move the ball of the controlling lever link to the top of the slot between the controlling lever and the pallet lever, and tighten in this position by means of a set screw to the beam lever shaft. By setting the link and beam lever in this manner the turning of the beam should be uniformly controlled from the time the warp beam is full until it is empty, without further settings being required. This is of course true only when the tension has once



been regulated and the driving rod arm, connecting rod, and pallet lever, have been set up correctly in relation to each other, and the other parts are working and continue working correctly. By this I mean that the sword set screws are tight and the picker foot and driving arm are set properly and are tight.

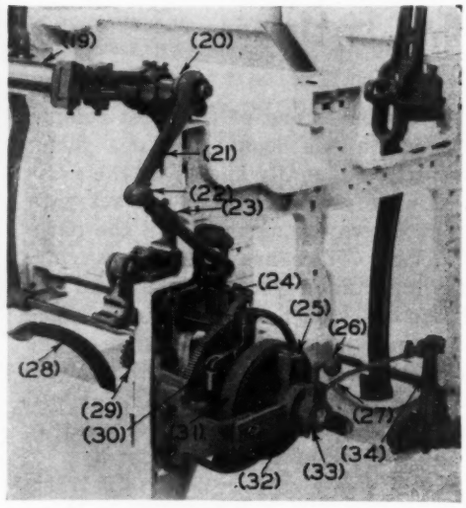
To set the driving arm, etc., be sure that the driving arm is set vertical on the picker foot and not at an angle. Turn the loom crankshaft to front center, move the pallet lever forward until there is 1/16-inch between the pallet lever and the stop on the controlling lever stand. Then move the connecting rod into the cuff that is connected to the driving rod arm until there is no lost motion in this rod between the driving rod arm and the pallet lever. By setting the whip roll and the whip roll cam correctly and then regulating the tension on the warp yarn by use of the vibrator rod spring, the let-off should operate correctly during the weaving of the entire beam.

The settings of the whip roll and cam were cov-



(1) Vibrator rod spring; (2) controlling lever stand; (3) whip roll vibrator rod; (4) controlling lever; (5) pallet lever; (6) pallet; (7) let-off guard; (8) let-off friction cam; (9) let-off friction clamp; (10) controlling lever link; (11) let-off friction dog; (12) beam lever bracket; (13) beam lever shaft; (14) let-off outside bearing support; (15) let-off pinion shaft; (16) link lever; (17) pinion cross head; (18) ratchet let-off wheel . . . . . .

(19) Whip roll; (20) whip roll lever collar; (21) whip roll lever; (22) whip roll lever plug; (23) preventer spring collar; (24) controlling lever spring stand; (25) let-off pinion shaft arm; (26) pinion shaft handle; (27) connecting rod; (28) beam lever; (29) let-off pinion; (30) worm wheel shaft bracket; (31) internal gear; (32) let-off outside bearing; (33) pinion shaft handle hub . . . . . .



Photographs courtesy the Draper Corporation

ered when we talked of face and cover on cloth. [See Article 2 on page 72 of the August issue.] As the whip roll cam leaves top center the tension of the yarn on the whip roll, caused by the forming of the shed by the harness, forces the pallet lever backward, or toward the front of the loom, by means of the whip roll lever, whip roll vibrator rod, the controlling lever and the controlling lever link, which forces the pallet lever in position to start another stroke. Connected to the pallet lever is the pallet, which is held against the ratchet let-off wheel by the action of a spring. As long as the loom is operating and the filling is being inserted the take-up motion operates. The tension on the warp yarn is uniform, or as nearly so as is possible, during the complete revolution of the crankshaft. Thus when the filling breaks or runs out, the take-up motion should cease operating, releasing the tension on the warp yarn, thus causing the warp yarn not to be let off until the take-up motion starts operating and the required tension is on the yarn again. By these means, thick and thin places are prevented.

Some of the little points in connection with the let-off that should be noticed particularly are as follows: Be sure that the teeth on the ratchet let-off wheel are not so badly worn as to allow the pallet to jump over them, or that the pallet is not worn so much as to jump over the teeth of its own accord. Be sure that the controlling lever spring is connected and does not put excess spring on the controlling lever. Note to see that the leather on the let-off friction clamp, or brake, is not worn out and is not coated with grease or waste, which will cause it to stick or bind. See that the bracket and bearing is not causing the let-off motion to bind, but allows it to work freely. Binding will cause wavy and uneven cloth. Note the meshing of the teeth on the beam with those of the let-off gear and have them meshed correctly.

A good way to test and make sure that the let-off motion is not binding but is operating correctly is to release the spring on the friction clamp and turn the ratchet let-off wheel by hand in the same direction that it turns when the loom is running. If the motion is working freely the let-off pinion shaft arm will stay in mesh with the teeth on the back side of the internal gear causing the pinion shaft and gear to be turned. If the motion is binding, the pinion shaft arm will not be turned by the internal gear, which, of course, will not allow the pinion gear to be turned, thus not letting off the yarn. When the let-off motion is binding, the turning of the internal gear forces the tooth of the pinion shaft arm out of mesh with the teeth of the internal gear and an audible click results, making it very easy to tell whether or not the motion is working freely and correctly.

The take-up motion is another motion on the loom that determines to a great extent whether or not the cloth woven is of first quality. I can well remember going to the cloth table to look at the seconds made on my job (those thick and thin places still haunt my dreams), especially when I could have sworn that I had fixed the loom, and then be called back to the cloth table by the overseer to look at some more thin places made by the same loom.

Take-Up Motion

As most of the looms we are discussing are now equipped with the worm take-up motion, we will make this discussion pertain to this type take-up. On looms that are changing from feelers, we of course do not have so many mispicks or broken picks as the quill is not completely emptied of yarn before a change is effected. Therefore, the take-up motion is not so important as a means of preventing thin places when a feeler is used as it is when the loom is changing filling from the fork alone. When the loom is changing from the fork alone, and there are two filling forks on the loom, care should be exercised when setting the take-up motion, especially when weaving a thin fabric such as 44x40 or 64x60 as mispicks, thick and thin places stand out like a broken front tooth.

The filling cam on the lever end of the loom should be set with the crankshaft of the loom on front center, with the cam follower resting on the flat part of the cam, so that any movement of the crankshaft toward top center will cause the filling arm to be lifted and the snakehead to be moved toward the front of the loom. The snakehead should work on a straight line, approximately parallel with the floor, and not at an angle either up or down, to insure proper working of this part of the motion. With the loom on front center and with these parts set in this manner, the fork should clear the snakehead 1/16- to ⅛-inch, and the fork should extend through the grate about ¼-inch. When the pin that passes through the filling fork slide and the fork is flush or even with the box back, the setting is usually considered correct. The fork and pin should have no lost motion between them and should be working freely. There should be no lost motion between the snakehead and its pin for any lost motion at either of these places will cut down on the distance the clutch moves or opens when the fork engages the snakehead. Be sure that the prongs of the fork are not touching any part of the grate and are not dragging or striking on the lay. Be sure that the filling fork finger, the take-up clutch lever link arm, and the take-up clutch lever link are set up so that any movement of the filling fork slide toward the front of the loom will cause the clutch to be opened. There should be no lost motion between any of these parts.

The spring that holds the take-up clutch in mesh with the clutch pinion ratchet should only be of sufficient strength to accomplish its purpose. Be sure that the take-up clutch is not binding but will move on the shaft so that the clutch opens and closes freely. Neither the keyway in the clutch nor the key in the shaft should be worn excessively, which would allow the clutch to move around loosely on the shaft. The driving gears, worm, and worm wheel should mesh correctly, work freely, and the take-up shaft should not bind in its bearing. Be sure that the train of gears from the clutch pinion ratchet to the sand roll gear are working freely and meshing properly. Any binding of these gears or in the sand roll will cause the take-up to function improperly, and may result in thick and thin places, wavy cloth and may cause some of the parts to be broken.

There are two slack pawls, long and short, that act as a stop for the clutch pinion ratchet when the clutch is open. These pawls work through the slack pawl arm and the slack pawl stop which is fastened to the cloth stand. There are holes in the pawl stop through which a cotter pin may be placed in order to regulate the amount that the cloth is let back, or the number of teeth that the clutch pinion ratchet is allowed to turn back when the clutch is opened. This distance or number of teeth can be regulated so that it varies from no teeth to 5 teeth of the clutch pinion ratchet that are turned back when the clutch is opened. This number of teeth varies according to the construction of the cloth being woven. On fabrics that do not have an excessive number of picks per inch the amount of let-back should be greater than would be the amount of let-back on fabrics that have a large number of picks per inch. The reason for this is that the greater distance between the individual picks in a thin fabric requires the let-back to be *more* in order to compensate for this greater distance between the picks than is true on a closely woven fabric. Thus to prevent a thin place from being made the let-back must be set according to the construction of the cloth being woven. The fewer picks per inch the more let-back; the more picks per inch the less let-back required.

The Value of System

As my wife seldom has the patience to struggle through one of my articles (she does look at the pictures when the articles are published), I think I may be safe in alluding to an incident of our married life. When we were first married her knowledge of cooking and keeping house was limited because she never had experience along this line. (I also might add that she suffered a rude awakening when she first began to arise at 5 A. M. to cook my breakfast and get me off to work.) Well, being me, I immediately attempted to rectify this lack of knowledge of keeping house by pointing out the value of doing her work in a systematic manner, such as keeping a scratch pad handy in the kitchen so that she could make a note of the fact that the coffee was getting low. To prove my point I brought up all the various systems used in the cotton mill, and soon I was getting my coffee regularly and just as strong every morning for she was "staying ahead on her job".

I wonder how many mill men know the value of records—the actual value in sheckels of keeping a record of such things as the life of a shuttle, rocker shaft, bearings, and the one and many things that the weave room falls heir to. I know of a mill that once used the same number of shuttles in *one month* as there were looms in the weave room. This figure

came from the supply room, where the only existing record was kept of shuttles issued to loom fixers. The overseer of weaving actually *did not know* whether each loom was using a shuttle every month, or if only a few looms were using most of them. I will venture to say that a very small percentage of those looms was using the greater percentage of those shuttles. Think of the money this overseer could have saved his company just by keeping a record of each shuttle as it was put in a loom. He could have checked on his shuttles, his looms, and his loom fixers, and his shuttle consumption would have dropped so low he would have called himself bad words.

There is nothing difficult about keeping a record of shuttles. In our plant we use an ordinary ledger with the loom numbers running vertically down the page and the weeks in the year running horizontally across the page blocked off into squares. When a shuttle is replaced we simply place a mark opposite the loom number under the correct date. Isn't it hard? And, in order to double check our system, we mark in ink on the inside wall of the shuttle the date, the loom number, and the initials of the loom fixer that put the shuttle in the loom.

From the ledger a weekly report is compiled and sent to the overseer of weaving and to the supply room. The supply room checks to see that the total number of shuttles replaced is the same as those issued. In our plant the overseer of weaving draws a dozen shuttles at a time from the supply room and keeps them in his office, either issuing them himself or permitting the second hand to do so. By this method he knows just how many shuttles each fixer gets, and the number of shuttles is a pretty good indication of what his fixers are doing on the job. He can also tell by a glance at the ledger which looms are consuming the most shuttles.

When a loom is using too many shuttles, or when the life of a shuttle is lower than it should be, the loom is inspected. After notifying the loom fixer of any adjustments or repairs necessary to the loom, he is given ample time to do the work and then the loom is inspected again.

Many of the readers have inspected a shuttle that has run for a day or so and found it in good condition, yet within the week that same loom has busted the shuttle. This is not an every day occurrence, but it has happened enough to be worthy of comment. When I first began inspecting shuttles, the first thing I did was to stop the loom off to see if it was in good condition. If there were no cuts or reed marks on it, I assumed that the loom was in good condition. I still believe this is a logical assumption, but I should have inspected that loom thoroughly because often the shuttle did not last very long. I thought that if the loom had not cut the shuttle in a few hours, it would run indefinitely, but this is not always the case.

I know how hard it is to stop off a loom that is making good cloth, just to repair a motion or make an adjustment that may continue to be okay for sometime, but I have found that in the long run if I had made certain that the loom was fixed when the trouble was first discovered, I would have eliminated much hard work and an increased supply bill. Some mills pay the weaver and fixer a bonus for production and for first class cloth, and it is a splendid fixer that has foresight enough to stop off a loom that is running well temporarily in order to cut down a big job in the future.

I am not criticizing anyone when I tell the following incident. I was visiting a mill and talking to a group of fixers who were complaining that they were working harder than usual, but still unable to keep their jobs on top. I tried to stick my oar in and pointed out the value of doing their work in a systematic manner; when I reached my pet theory of stopping off the looms in spare time to fix one certain thing on each loom, you should have heard them speak up. "Stop off a loom that is running? Boy, you would have everybody from the super on down on your neck about production. I say 'patch 'em up, knock down the flag, and turn 'em over'."

This left me speechless. I know that every mill needs and wants every pound of production possible, but I cannot see how this mill will ever attain maximum production if the fixers are not allowed to run their jobs and fix looms while they can—in their spare time and before they are flagged.

Loom fixers are proud of their jobs and they like to try to have the best section in the mill; they will work hard if only given a bit of encouragement. I say let the fixers run their jobs by a system so that they can keep their sections off the floor, stopping the looms off and fixing them when they see something beginning to give trouble, instead of making them wait until a flag is up, and then telling them to get it down as fast as possible.

(This concludes the fifth installment of the series on loom fixing methods. The sixth part will appear in an early issue and will discuss the filling change motion. If there is some particular phase of loom fixing you would like for Mr. Hawkins to cover, he will be glad to do so upon request.—The Editors.)

How do you fasten your power straps? One overseer of weaving claims it is economical to fasten the power straps (hold-up straps to you) with only one screw and that at the top. It is his theory that in this way the bottom of the power strap swings loose and follows the lug. Thus, instead of chafing the lug or power strap either, they both work together and the life of both is prolonged.

Then there is the overseer who gets indigestion every time he finds a power strap with only one screw in it. He thinks that it is conducive to a good running loom to have the power strap fit close to the picker stick. He believes that in this way no power is lost and should one screw come loose, there is always its buddy to keep the loom running until the loom fixer sees it and replaces it. Funny, too, both of these men are in the same organization.

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Thomas A. Edison was the father of the electrical industry.

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Most of us are broad-minded enough to see at least two sides to every question—ours and the one that's wrong.

Some Further Observations by

The Spare Floor Philosopher

Part 2

THIS series comes from the pen of a practical southern mill man. In the July issue John Simpson, the character, a "spare floor philosopher", was introduced; he gave a few pointers on cutting the cost of supplies in the spooler room, talking about his throw-out-hook belts, keeping belts clean, and the springs on a spooler. This month he continues his philosophy.—The Editors . . . . . .

"A Stitch in Time . . ."

I PASSED through the spooler room several times and John Simpson was busy each time. I finally spotted him standing in the spare floor and I knew all was well. I went up to him and asked him if he was busy. "No," he said, "but I have been. Have you ever noticed how trouble always comes in bunches?" he asked.

"No," I said, "I don't know that I have."

"Well, it does," he assured me, "if you aren't on the lookout for it. From now on I'm going to try to take that stitch in time so I won't have to worry with the other eight."

"That's a pretty good policy," I told him, and ventured to advise that if a fellow were to follow such a course it most certainly would lead to something better. We talked of several different things, meanwhile John had gotten a nice big square of tobacco put away comfortably in his right cheek and this was a sure sign that a verbal lecture on anything I might suggest would be forthcoming. "Last time I talked to you, you were telling me about cutting the corners off your supply bill," I reminded him.

"I take smart spells . . ."

"Yes, yes!" he said, beaming with interest. "How far did I get?"

"You told me that automatic spooler motor belts would last much longer if they weren't tightened too much and were kept clean . . ."

"That's right," he butted in. "And a thing I forgot to tell you is the drum bearing next to the belt will last much longer if the belt isn't tightened too much."

"You ended up last time on springs—what's the next corner?"

"Grid bars and detectors I reckon," he said. "Sometimes the thread wears a groove in the grid bars, and at the same time it wears a groove in the detector, for the detector holds the thread against the grid bar. The groove in the detector can be sanded off if you bear down on it with ½ emery cloth. You must really bear down on it and keep at it until the surface is down on a level with the bottom of the groove. Always follow this up with a polishing cloth. "Now the grid bars require different attention for they are made of a glass-like substance and emery cloth won't even touch 'em. So you take the snick plate off (that's what the grid bars are fastened in) and take it to a vise and turn the grid bars about a quarter of a round. This is enough to get the groove away from where the thread runs. Don't try to turn the grid bar with a pair of pliers—you can't do it. Put the point of the grid bar into the vise and turn the snick plate. Repeat this until all three grid bars in the snick plate are turned."

Pointers on Cutting the Costs of Spooler Room Supplies . . .

"Are these pieces just as good as new when you do that to 'em?" I asked him.

"They work like brand new ones," he said.

"Aren't you afraid you'll get some of these things wrong when you work 'em over?" I asked him.

"Oh, no!" he said. "I always make 'em work like brand new parts or throw 'em away."

"Do you throw away any parts that you think you could use?" I inquired.

"I don't throw away any parts that I can work over and use with good results," he said. "You see," he continued, "the main thing is *results*. That reminds me of the time the superintendent came into the mill to see why the work was running so bad. The foreman offered this excuse and that excuse. 'I don't want excuses,' the super said, firmly. 'By golly, I want results.' "

"Are you getting results?" I asked.

"From the parts I work over I'm getting good results, but this fine yarn (46s) and this spun rayon we're running is giving me a headache," he said.

"Let's get back on some of the corners of the supply bill," I suggested.

John scratched his head and said, "Well, well, let's see now . . . let's walk up here to the end of the spooler. These covers on the sorter tables can be used four times longer if they're swapped about. You see the bobbins fall from the elevator belt and always hit in one spot. When the spot wears nearly through I swap them, putting the right hand cover on the left hand side and left hand cover on the right hand side. This leaves a new spot for the bobbins to fall on. When the spot wears nearly through again I turn 'em around, and then when they wear nearly

through the next time I swap rights with lefts."

"I see here where you've let a couple of 'em wear all the way through," I said.

"I get a little lazy sometimes and a few of these things get ahead of me. But I take smart spells, too," he said, "and when I take a smart spell I get things done. After all, a section is just a big housekeeping job, and you can't keep everything right-up-to-the-minute, as the saying goes. The more important things must always be looked after, and the things of less consequence must take their turn when you have the time to give them attention. You see," he continued, "a bad housekeeper will cook, wash, sweep, and make up beds just the same as a good housekeeper, but it is the little extra things the good housekeeper does that gives her the title, *GOOD*. It is the same way with a section. A bad section man always attends to the important things. But he forgets the little things. In other words, he never takes smart spells."

"You must think these smart spells are important," I said.

"They are," he asserted. "Sometimes I take a smart spell that lasts three or four months. During this time I will just about cover the whole job. I clean out the oil boxes under the spoolers. And by the way, cleaning out these oil boxes, holes and back drains, makes them more economical on oil. So, that's another corner off the supply bill. But let us get on . . ."

"Wait a minute," I said, butting in. "I've got to be going. We'll take up all of that the next time I come through."

"I just wanted to tell you," John said, "that keeping a job up will cut a mighty big corner off the supply bill."

I said, "We'll find out how you keep a job up, and go into it in detail the next time," and I left him, knowing that he had a lot more to say. I didn't let him tell me what he did when he had a smart spell. I'll get him to tell it next time.

Another conversation with the spare floor philosopher will appear in an early issue of the magazine. Are there any particular pointers concerning the spooler room you would like John Simpson to discuss?

Diesel Engine

The Diesel engine is an internal combustion engine in which the fuel is ignited solely by the heat of the air compressed in the cylinders. Its chief advantages over all other types of engines are that it converts into mechanical energy a higher percentage of fuel, and that it uses a very cheap fuel. There is no other proved and practical method of converting energy into usable power as economically and efficiently as in the Diesel engine. While it had been known for a long time that air compressed quickly became heated to a high temperature, it remained for Rudolph Diesel to propose and build the first engine embodying this principle of burning fuel. It is from this engineer, therefore, that engines of this type receive their name.

In addition to the economy of Diesel engines, reliability and safety are important characteristics. Since nothing but air is compressed in the cylinder and the fuel is injected at compression, pre-ignition cannot occur; moreover, there are no spark plugs or other electrical ignition system to become fouled or get out of order. The entire engine is simple and rugged in construction, it has few moving parts and an exceedingly long life.

Unlike steam or purchased power which increases in cost as production or consumption decreases, the Diesel engine is capable of generating power with approximately equal efficiency in both large and small capacities. It thus serves large and small consumers impartially.—*Fairbanks-Morse.*

Perfect valor is to do without a witness all that we would do before the whole world.—La Rochefoucauld.

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A cosmopolitan executive is one whose mind travels the world while he is trying to run his job.

The Textile Dollar

Figures released by the Federal Trade Commission over a period of several months during the latter part of 1935, show that labor gets in wages 25.6c out of the average Georgia cotton mill's dollar. The farmer gets 42.5c of this dollar for cotton. Of the remaining 31.9c, taxes, selling, fuel and power, depreciation, manufacturing expense and supplies and office salaries combined get 31c, leaving a profit of nine-tenths of a cent for the stockholders.

It is easy to see that our mills aren't making any great profit on their goods and it is up to the people to cooperate with them in every way possible to prevent labor troubles and other obstacles that would lead to the suspension of operations. Labor, of course, deserves a fair deal, and in a majority of our Georgia mills, employees are being treated fairly. Where mills are coercing their employees, they of course deserve no sympathy from the public.

Georgia's cotton mills mean much to the state from an economic standpoint. These mills give employment to thousands of people and distribute millions of dollars over a year's time. Certainly the people who have their money invested in these mills deserve some consideration and a reasonable profit. Any way you slice it, labor and the farmer get the majority of each textile dollar. Let's not begrudge the owners a small return on their investment and let's keep the cotton mills in Georgia!—*Dalton (Ga.) Citizen.*

Two-thousand-six-hundred years ago Aesop said, "Although in the years to come we will realize the benefit of Social Security, I sincerely doubt its validity under the Constitution—if we had a Constitution."

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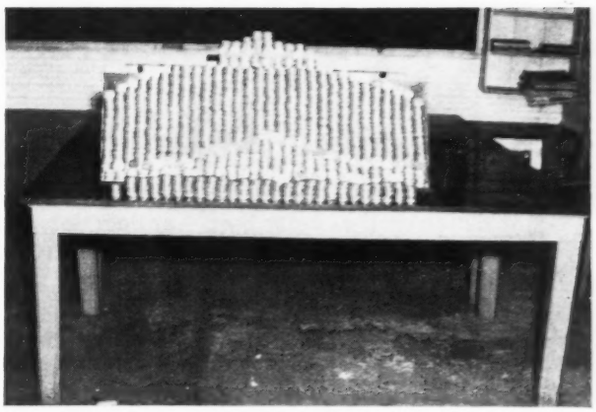
The bard Homer once said, "Great men representing a great people will legislate great laws for great industries and they will be great mistakes."

"Silver Dollar Pay Day" and "Open House" at Cartersville Mill



This stack of 6,500 silver dollars was used by E-Z Mills of Georgia for a recent weekly payroll. Since very few silver dollars were otherwise in circulation in the community, this event provided convincing evidence of how the wages paid by the mill soon penetrate every phase of community life and business . . . . . .

JOHN FOWLER, president of the E-Z Mills of Georgia, Cartersville, Ga., has recently staged two events in a program of public relations that should be of especial interest to and worthy of the consideration of other southern mills, particularly those located in smaller towns and cities.

One of these events was an "open house", during which a large number of local business and professional leaders, legislators, city and county officials and others visited the plant on a day set apart for the purpose, and made a tour of this modern knitting mill, from the knitting room to the finished product. Employees of the mill served as guides, and light refreshments were served to all those participating in the tour; each guest receiving a knitted wash cloth as a souvenir of the occasion.

Such an occasion serves to give the influential people of the community a better conception of the mill and what it does, makes friends of them, and demonstrates the importance of a textile enterprise in the community. It is an effective way of developing good will and understanding.

Subsequently, the E-Z Mills staged a "silver dollar pay day", paying off the entire pay-roll for one week—in this case $6,500—in silver dollars. Since, now-a-days, very few silver dollars are in regular circulation, this procedure provides a forcible way of demonstrating to the merchants, business men, etc., of a community the amount of their business that comes directly from the mill pay-roll. It provides a ready means of emphasizing how much of the mill pay-roll goes for food, clothes, rent, taxes, doctor's bills, etc.

The E-Z Mills are tremendously pleased with the response to these programs, in the way of increased appreciation in the community, and a closer relationship between the mill and the other elements in the community which such occasions produce. It has been well said that public opinion in a state as a whole is but the chain of the public opinion that exists in the counties in which the mills are located, and anything which can be done to strengthen each individual link will strengthen the chain, and improve the position of the mills.

Campaign for Cotton Covering for Bales

Cotton mill co-operation with the Department of Agriculture in forthcoming experiments in the use of cotton fabric for cotton bale coverings is urged by Claudius T. Murchison, president of The Cotton-Textile Institute.

Dr. Murchison points out that approximately 91,000 yards of bagging, manufactured under special specifications, have been purchased by the Department and allocated to experimental stations and prison farms in several cotton-growing states. Present plans contemplate the baling in the fabric of 16,000 bales of Upland cotton, 600 to 800 bales of Sea Island cotton, and 15 bales of Pima cotton during the current crop year.

These plans are a long step toward achievement of one of the Institute's objectives in developing new uses for cotton, the importance of which to cotton growers and mills is indicated in estimates that the use of cotton fabric rather than jute burlap for bale coverings would absorb more than 100,000 bales of cotton annually. Adoption of the cotton fabric bale coverings as standard is probably dependent on the establishment of raw cotton trading on a net weight basis rather than on the prevailing gross weight basis. Net weight basis legislation has been pending in the Congress for years, but the Department's current experiments, first of their kind on such extensive scale, may produce results justifying the cotton-textile industry and other interested groups in determined efforts to obtain its enactment during the next session.

Dr. Murchison points out that the cotton bale covering will weigh 4½ pounds as against the standard tare of 12 pounds in the jute covering bale, and that if the co-operation of cotton farmers in the experiment is to be obtained they must be assured they will suffer no loss in the price paid by the mill for cotton-covered cotton. Accordingly, mills in making settlements for cotton-covered bales will be expected to add 7½ pounds extra weight to compensate for the lighter covering. They are urged to do this (and to advise the Institute of their action); and also to take special note of the strength, effectiveness, and re-use value of cotton coverings.

1938 Spring Woolen Colors

The Textile Color Card Association of the United States, Inc., 200 Madison Ave., New York, N. Y., has released the 1938 woolen color swatch form, in which muted tones are stressed. The new colors are in close harmony with dominant color trends sponsored at the Paris mid-season openings.

Winget Heads North Carolina Cotton Manufacturers

Association opposes processing taxes and Federal regulation of industry; many enjoy golf at outing . . .

MEETING at The Carolina, Pinehurst, N. C., on Friday, November 5, in its 31st annual meeting, the North Carolina Cotton Manufacturers Association adopted resolutions opposing a processing tax on cotton and opposing any Federal legislation placing regulation of industry in the hands of an appointive board; elected Arthur K. Winget president, succeeding Herman Cone; held an executive business session to which only mill men were admitted; received reports from its several committees; enjoyed a golf tournament, with prizes, and the annual banquet, at which Claudius T. Murchison, president of The Cotton-Textile Institute, was the chief speaker.

Among the reports of general interest was one made by Alex R. Davis, of Saco-Lowell Shops, on the progress made in the establishment of a textile plant at the Stonewall Jackson Training School, at Concord, N. C. The purpose of this small plant will be to provide means of occupation and training to the boys at the school. Among those contributing to this enterprise are:

Proximity, Mfg. Company, Greensboro; Cannon Mills, Kannapolis; Roanoke Mills, Roanoke; Balfour Mills, Balfour; Entwistle Mfg. Co., Rockingham; Brown Mfg. Co., Concord; Saco-Lowell Shops, Charlotte; Draper Corporation; Walker Engineering Co., Gastonia; and Sherwin-Williams Company, Charlotte office.

Marion W. Heiss, of Proximity Mfg. Co., reported gratifying results in the association's annual safety contest, four plaques being awarded to the mills with the best records on safety, and certificates to 50 other mills.

Other association activities were discussed in the executive session, as follows: State legislation, R. L. Harris, of Roxboro; N. C. Industrial Council, Agnew H. Bahnson, of Winston-Salem; traffic department matters, F. J. Haywood, of Concord; the N. C. sales tax, Bernard M. Cone, Greensboro; raw cotton problems, C. A. Cannon, of Kannapolis; public relations, Thomas H. Webb, of Concord.

In addition to the new president, Mr. Winget, who is president of Efird Mfg. Co., Albemarle, other officers elected were.

First vice-president, J. Harvey White, Travora Mfg. Co., Graham, N. C.; second vice-president, A. G. Myers, Textiles, Inc., Gastonia, N. C.; secretary-treasurer, Hunter Marshall, Jr., Charlotte. Members elected to three-year terms on the board of directors were: F. B. Bunch, Statesville Cotton Mills, Statesville, N. C.; W. H. Ruffin, Erwin Cotton Mills Co., Durham, N. C.; Arthur London, Chatham Mills, Inc., Pittsboro, N. C.; Don P. Johnston Royal, Cotton Mill Co., Wake Forest, N. C.; E. A. Smyth, III, Balfour Mills, Balfour, N. C.; and S. W. Cramer, Jr., Cramerton Mills, Cramerton, N. C.

At the banquet, Dr. Murchison discussed prevailing uncertainty in the industry, first as to the legislative outlook, and second as to the future course of business. As to legislation, he felt that "the passage of wages-and-hours legislation" is not inevitable, citing the differences of opinion to be reconciled, the waning in the support of organized labor, and the better education of the public as to the dangers in investing in a Federal board powers great enough to affect the welfare not only of industry, but of millions of wage earners. "From the very beginning," he said, the cotton-textile industry, with all other major industries, "has strongly opposed the establishment of a labor standards board."

There is genuine danger, however, that the processing tax will be restored, said Dr. Murchison, urging public sentiment in opposition to this type of legislation, which puts cotton at a competitive disadvantage, adds to the consumer cost, and acts as a deterrent to consumption.

The speaker looked for substantial relief for industry by modifications of the undistributed profits tax which "denies the principle of business thrift, penalizes the growth of plant and equipment, and puts at a great disadvantage those industrial units whose capital structure has been impaired."

As to the future course of business, Dr. Murchison said that, "the concensus of expert opinion does not anticipate a serious or long continued depression for business as a whole. It is well known that the consumption of cotton goods does not diminish in times of depression to so great a degree as the output of the other major industries. We have, therefore, the assurance that no distressing shrinkage in the physical volume of production is in prospect. * * * Once the industry is assured that cotton prices have reached bottom, the most discouraging ingredient of the business outlook will have been swept away.

"In the meantime, the industry, through careful and persistent adjustment of production operations to market demands, should be able to preserve its wage-and-hour standards and at the same time diminish those financial losses which customarily attend periods of business prosperity."

Stuart W. Cramer, Jr., of Cramerton Mills, received the silver bowl awarded by Corn Products Sales Co., to the winner of low net score in the associations annual golf tournament. This trophy must be won three times for permanent possession, but each year's winner receives also a small replica which he retains permanently. W. H. Ruffin, Erwin Cotton Mills Co., also received a prize for low score. A. G. Myers, Gastonia, won the association's prize for low gross; J. G. Matheson, Mooresville, received by draw the association's low net prize, after a tie with Ed Millis and Herman Cone. In the guest division, Tom R. Mott, of Corn Products Sales Co., and B. W. Wilson won low score prizes; and Sidney S. Paine, of Greensboro, received the booby prize for high score.

At the banquet, Luther H. Hodges, of Spray, presided in the presentation of association medals to all past presidents of the association, these being received personally by the past presidents in attendance, and by relatives and friends for those absent and deceased. Mrs. J. W. Cannon, widow of the founder of Cannon Mills, and mother of Charles A. Cannon, was elected an honorary member of the association.

Warwick Purchases Manufacturing Property in Rock Hill, S. C.

Warwick Chemical Company, West Warwick, R. I., has purchased manufacturing property in Rock Hill, S. C., from the Highland Park Manufacturing Company of that city. Warwick will remodel and equip the plant with modern machinery for the manufacture of textile chemicals in order to be in a better position to give quicker and better service to southern customers. The new plant will be known as Carolina Division of Warwick Chemical Company, M. M. McCann, who for two years has been a representative of the company, following a long connection with Burlington Mills, will be in charge of the new plant. W. E. H. Searcy, III, Griffin, Ga., will continue to represent the company in the Georgia-Alabama territory.

New Manufacturing "Aisle" for A. C. Motors Opened by Westinghouse

View of conveyor lines in the new Westinghouse manufacturing "aisle" for dispatching rotors and stators to assembly department

A REPRESENTATIVE of COTTON participated on November 10 in an editorial preview inspection tour of the new "manufacturing aisle" just constructed by the motor division of Westinghouse Electric & Manufacturing Company, at East Pittsburgh, Pa., for the mass production of industrial a.c. motors. Vice-President Ralph Kelly, of Westinghouse, was host to a large group of trade-paper editors for luncheon and dinner and a tour of this new plant. The occasion provided also the opportunity of meeting all of the division's key industrial executives in a single day.

At the luncheon preceding the tour, Mr. Kelly welcomed the visitors, and the "aisle" was explained by R. W. Owens, manager, and G. S. Ryan, superintendent, of the motor division.

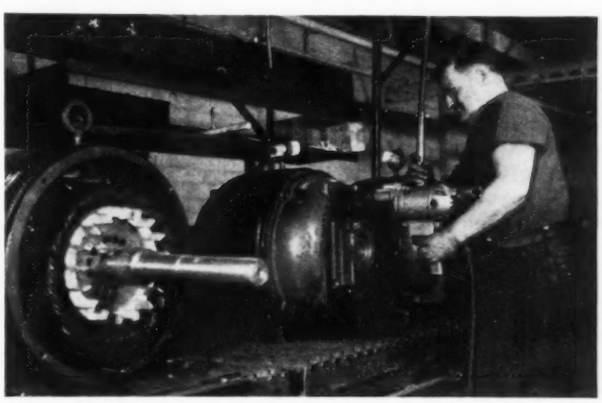
Textile mills constitute one of the largest users of industrial a.c. motors—one branch, rayon, is a notable example of a new industry creating new demands on the motor industry—and will undoubtedly be interested in the establishment of this modern, efficient means of motor production.

The new mass production "aisle" for a.c. motor production is in reality a mammoth plant, of approximately 200,000 square feet, organized and planned into a continuous line, embracing in one area, on one floor level and under one responsibility, virtually all of the operations required to build, warehouse, and ship industrial induction motors. It is the result of an increasing demand for motors by industry, both for "standard" motors and for custom-built jobs for particular application. To obtain the benefits of quantity production without interference from the special items, two manufacturing lines are used; one consists largely of special purpose equipment designed for the production of standard parts and motors, and the other of general purpose equipment for the production of special items and custom-built motors. Each line has unit manufacturing centers to supply parts by conveyor to sub-assembly and final assembly positions. In each line the flow of work is from the raw material storage at one end of the building to the finished motor storage and shipping department at the other end. Each operation is designed to keep the machinery and workman gainfully employed, and the movement of pieces between operations is kept as nearly as practical at the proper working height. Gravity roll conveyors are used most to accomplish this, but power driven booster belts and live roll conveyors are used, as well as overhead chain conveyors. Caster type boxes handle small finished parts, and cab-operated cranes handle large weights principally in the raw material and storage areas.

Winding "mush" coils in the motor stator. The ring type fixture permits movement of frame both radially and axially . . . . .

Raw materials used by the new plant will include 700,000 pounds of electrical sheet steel per month, 150,000 pounds of bar steel for shafts, 1,000,000 pounds of castings for motor frames and brackets, etc. Complete handling facilities for these materials, and for the product as it passes down the line, are provided. There are two miles of conveyors of various types, a full range of crane facilities; available equipment was supplemented with $220,000 worth of modern machine tools, with thousands of dollars' worth of special tools and precision gauges. The building was designed with windows and skylights covering nearly 40 per cent of roof and wall space for maximum natural light; supplemented with modern artificial lighting aggregating 365 kw., and giving 25 foot-candle intensity at the work positions.

The "aisle" is modern and efficient in every respect as to arrangement, flexibility, and production. It is a recognition by Westinghouse of an increased demand for electric motors, in both new and established industry, and the adoption on their part "of up-to-date manufacturing methods and processes in order to produce today's types and varieties of industrial motors economically, to provide for expansion to meet future increasing demands, and to provide flexibility to incorporate new methods and processes in the future."



Assembling an a.c. motor with power driver. Note the turntable for rotating the motor and the convenient material racks and tool stands . . . .

FTC Rules for Rayon

PRACTICALLY every phase of textile manufacturing and distribution was affected by the trade practice rules for the rayon industry, promulgated by the Federal Trade Commission on October 26, following extensive hearings, and during the past month the industry has devoted much thought to their effect and application. The purpose of the rules is "to provide for proper fiber identification and disclosure of rayon and rayon products and for the prevention of misinformation, misrepresentation and deception, in the interest of fair competition and consumer protection."

The rules are mainly concerned with the establishment of terms affecting all-rayon yarns and fabrics and other products, and mixtures containing rayon, and with the labeling of such yarns and goods. The word rayon is established as the generic term for manufactured textile fiber or yarn or fabric produced chemically from cellulose or with a cellulose base — whether by the viscose, acetate, cuprammonium, nitrocellulose or other process—and it is declared to be an unfair trade practice to represent such products as not being rayon, as being something other than rayon, or without disclosure of the fact that such material or product is rayon.

It is considered an unfair trade practice to represent such rayon product as having been made by a certain process when such is not the fact. However, nothing in the rules prohibit, in conjunction with the word or designation "rayon", the use of such phrases, when truthful, as "viscose rayon" or "rayon manufactured by the viscose process", "acetate rayon" or "rayon manufactured by the acetate process", *provided* that in such statement, the word "rayon" is given equal prominence and emphasis. Rayon yarn manufacturers may, under the rules, use in their trade-marks such terms as "Celanese Rayon", "Acele Rayon", "Du Pont Rayon", "Bemberg Rayon", "Seraceta Rayon", etc., provided the term "rayon" is set forth "as a part of such term, phrase, statement or representation so used, or in immediate conjunction therewith, and with at least equal prominence, conspicuousness and emphasis, to the end that said word 'rayon' and the fact that the product is rayon will not be misleadingly or deceptively minimized, obscured or rendered otherwise inconspicuous."

Such terms as "taffeta", "chiffon", "velvet", "crepe", "georgette", etc., associated usually with other fibers, may not be used in connection with rayon yarn or fabric except, in truthfully indicating the type of weave or construction, when qualified clearly by the word "rayon".

In mixed goods, composed of a mixture of rayon and other kinds of fiber or substances (other than necessary dyeing and finishing materials), full disclosure of the rayon and other content should be made, under the rules. "Such disclosure of the fiber content of said products shall be made by accurately designating and naming each constituent fiber thereof in the order of its predominance by weight, beginning with the largest single constituent; such as, for example, 'Rayon, Wool and Silk' for yarn, threads, strands or fabric composed of rayon, wool and silk and containing rayon in larger proportion than either silk or wool and containing wool in greater proportion than silk." This rule is subject to the following:

The respective names of such fibers shall not be set forth so disproportionately enlarged or emphasized as to mislead the consumer into the belief that a greater proportion of such over-emphasized fiber is present than is in fact true. The second interpretation of this rule is:

"Where the fiber or fibers comprising at least 95 per cent of such mixed product are disclosed not only by name as required by these rules, but also with the percentage of such in the order of predominance by weight, the remaining 5 per cent or less of the fiber content may be designated as "Other Fibers" or "Miscellaneous Fibers", if such 5 per cent proportion is not definitely known or readily ascertainable as consisting of but one fiber, and is not misrepresented. An illustrative example of the disclosure under this rule is: "50 per cent rayon, 46 per cent silk, 4 per cent other fibers".

If a fiber present in less than 5 per cent by weight is named, the exact percentage of that fiber, such as "2 per cent wool", or "2 per cent silk", must be disclosed.

The newly promulgated rules do not relieve anyone of the requirement of making disclosure of the presence of any substance other than fiber used as loading material or as an adulterant.

The rules prohibit the use as descriptive of products made in whole or in part of rayon of the word "silk" or the distinctive term or phrase "pure dye". They also prohibit the use of the words "wool", "linen", "flax", "cotton", except as provided for in the requirements for mixed goods.

The commission declares it an unfair trade practice to advertise or sell rayon yarns and goods under conditions tending to cause deception, citing as a specific example, the marketing of rayon or rayon products at silk counters or in the silk department of dealers or as being manufactured or distributed by a silk company or other firm whose name indicates a silk business, without making full disclosure that such products are rayon and not silk or are a mixture of rayon and other materials as already described.

The rules described in the preceding paragraphs comprise Group I of the trade practice rules which are considered to express the requirements of law. In Group II, the practice of making full and accurate disclosure of the proportions or percentages of constituents in mixed goods is approved as a proper practice, as is the practice of disseminating information as to the proper treatment, care and cleaning of rayon goods. Non-observance of the rules in Group II does not, *per se*, constitute violation of law, but the failure to observe them under certain circumstances may result in an unfair method of competition contrary to law. The new rules supersede the October 31, 1925, resolution of the FTC as to the term "rayon" and the commission's February 1, 1929, announcement respecting the intent and effect of that resolution.

An Authoritative Comment on the New Rayon Rules

The November issue of *Rayon Organon*, recognized authority in the rayon trade, says concerning the new rules, that they completely avoid the important factor of *fabric* standards; they go beyond the original concept (that of defining and marking rayon yarn as sold by the producers) and "cover the labeling of all goods containing rayon at every step of their production, and distribution from yarn producer through the retail store."

There is a disposition in the market to identify or mark rayon goods with the 'rule of reason' in mind," the *Organon* continues. "If the purpose of the Federal Trade Commission rules is to define and prevent unfair trade practices and unfair competition, then only those goods containing rayon would have to be labeled which, in their unlabeled form, would tend to mislead the buyer and thus be an unfair trade practice. But if the Commission intends to mean that *all* goods containing rayon must be labeled, such a concept would mean that these rules are new legislation or a sort of limited 'Truth in Fabrics Bill', according to opinion expressed in the market. * * *

"We believe that these rules temporarily may cause confusion at the retailer-consumer distribution stage, particularly in the immediate application of the rules to goods in stock. * * * Unless similar identification requirements are applied to competing fibers, the handling of rayon yarn and fabrics containing such yarns will carry burdens in advertising and selling which will not be shouldered by wool, silk, cotton, and linen manufacturers. * * *"

Newly Organized Piedmont Division of STA Meets in Charlotte

THE organization meeting of the new Piedmont division of the Southern Textile Association was held at the Chamber of Commerce, Charlotte, N. C., on Saturday, November 6, with an attendance of approximately 125 men. The meeting was featured by spontaneous discussions of questions on carding and spinning.

Edwin M. Holt, of Erwin Cotton Mills Co., Mill No. 3, Cooleemee, N. C., opened the meeting, describing the new organization set-up of the association, of which this new division is a part. He explained that this year the association is making an effort to form throughout the south divisions which, geographically, will make attendance by mill men more convenient. Under the new set-up, the boundaries of each group are loosely fixed, but broadly speaking, the Piedmont division is bounded on the north by Salisbury, goes west to Asheville, south to a point about half-way between Charlotte and Spartanburg, and east to the coast. To the north of it are the Northern North Carolina-Virginia division and the Eastern Carolina division, and on the South, the new Western South Carolina division. Mr. Holt announced that between 1,000 and 1,200 southern operating executives had attended the series of association discussion meetings this fall.

Marshall Dilling, secretary-superintendent, A. M. Smyre Mfg. Co., Gastonia, who is executive secretary of the association, assisted Mr. Holt in organizing the meeting, and called upon F. Gordon Cobb, a former president and secretary of the association, who paid tribute to the progress made by the organization in attaining his "life-time ambition of seeing southern textile superintendents and overseers the most efficient in the world", and cited instances of opportunities of even greater progress in the future.

Mr. Dilling then turned the meeting over to B. M. Bowen, superintendent, Salisbury (N. C.) Cotton Mills, who conducted an open-forum discussion on carding topics, according to a prepared list of six questions.

Effect of Roving Twist on Breaking Strength

The first question was: *What effect will more or less twist in roving have on the breaking strength?"* Mr. Cobb was called on, and said perhaps a spinner, and not a carder, should answer that, because "every one I ever saw always wanted more twist than he was getting in the roving, and I'll have to admit that some of them have shown me where if you are down to standard that one tooth of twist would add to the breaking strength. That is not according to theory, but I do not believe anyone could start up a new mill by using all of the standards laid down for twist multiples. People are putting in less twist than they ever did, especially in roving."

"It seems to me," said Mr. Holt, "that when you think about twist you have to think of drafting at the same time, and it has been my experience that you can get the best drafting with the least amount of twist possible. Therefore, the factor that will influence the amount of twist is that you must have sufficient twist so that it will not stretch and at the same time permit the best draft. It seems to me the best twist to run is that nearest to the standard. I do not think that many mills can run much less than standard twist, but I do believe you will get the best breaking strength and at the same time the best draft by adhering as near to the standard as possible down to the point where the roving will not stretch in the creel."

R. V. Alexander, overseer of carding at Cooleemee, brought out that staple length as well as grade affects the twist. On 7/8-inch stock, he said, one may get a little stretch with only standard twist; and "I would say on 7/8-inch, run a little above standard, and on longer staple run on standard." J. C. Edwards, general superintendent, Morgan Cotton Mills, Laurel Hill, N. C., said when he ran a spinning room, he "had trouble with the carder getting the twist low enough. Twist in roving does have a definite relationship to evenness and breaking strength. I like just enough twist in roving to avoid stretching in the creel when my roving skewers are in good condition. You cannot get an even draft on hard-twisted roving, and without even draft you cannot have even yarn."

Marshall Dilling, secretary-superintendent of A. M. Smyre Manufacturing Co., Gastonia, N. C., who assisted with the organization of the Piedmont division. Mr. Dilling is executive secretary of the Southern Textile Association . . . . .

Mr. Dilling explained that the matter of twist had come to the front largely because of long draft roving; that "it is generally understood that long draft requires less twist than conventional draft."

"Personally, on 1 1/8-inch cotton, I use not more than 1.10 twist multiple," on long draft, said Mr. Edwards. "I think you can get by with harder twist on conventional draft than on long draft, but it is an advantage on either to keep the twist as low as you can compatible with good running work on the speeders."

M. T. Poovey, superintendent, Hannah Pickett Mill No. 2, Rockingham, said he had trouble with carders wanting to take out too much twist in the roving. On colored work, he said, he runs his filling roving single in the spinning creel, "and we find we have to use a right smart more twist on single than on double roving. My weaver is a great believer in plenty of twist in the filling, and I think he is all wet on that because if you put in too much twist on single roving you will make thin places and the twist will run to the thin places." He is running 14s filling, single roving, using 15/16-inch cotton, and "it takes a lot of twist to keep it up."

"What difference, if any, is to be found in evenness, breaking strength and ends down, with roving made on conventional type frames and on long draft frames?", was the next question. R. L. Lindsay, of Saco-Lowell Shops, was called on, and said, "The experience we have had with long draft roving is that if you have the machines back of the roving frames

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Reported by Robert W. Philip

working right, and with the drafts as they should be, and with the proper humidity, you will not find much difference in the evenness or breaking strength of the yarn between long draft roving and the regular three-roll conventional type." But, Mr. Bowen pointed out, the new process gives the other benefits of long draft.

"We have one frame of the long draft type, with the folding roll, that we have used as a test frame, making 2.00-hank roving going into 30s yarn," said Mr. Holt." This was run against roving of the same hank single in the creel, made on a slubber and intermediate, and our results on this test lead us to say that there was no difference; one day the ends down on the long draft roving would be greater, and the next day they would be greater on the regular roving; and the same thing was true as to breaking strength." And they were cutting out one process with the new method, he added. R. B. Cooke, Mooresville (N. C.) Cotton Mills, reported similar test results, adding that "you have to be pretty careful with the weights from the drawing" with the long draft roving.

Mr. Cobb asked for experiences in changing from metallic rolls to leather rolls on the drawing. Mr. Lindsay said, "In regard to long draft roving, we are finding out the same troubles with it that we discovered with long draft spinning: that it is necessary to go over the drawing, and cards and pickers; but we are not asking you to do anything for long draft that you shouldn't do anyway. We have found if you change to cork or leather (common rolls) from metallic that you get better quality of yarn on regular or long draft. Since you are cutting out a process it is desirable to have as good drawing as possible and we know you can get smoother sliver from cork or leather than from metallic rolls."

Improper condition of machines preceding long draft roving will make it impossible to get good results from the new machines, Mr. Edwards agreed; "on the other hand, we made a test in which we were drafting 17½ from the drawing sliver into a 2.80-hank roving going into a product where breaking strength was absolutely essential; and we found that using two processes of drawing running 225 with a 1⅜-inch roll gave us just as good results in uniformity, breaking strength and smoothness of yarn as we had been getting with slubber, intermediate and speeder. We did not find that cork rolls gave us any better results than metallic, but I do not mind saying that since the synthetic rolls have come out I very much prefer them to metallic.

"I have just had an opportunity to do some further testing with long draft fly frames, and I think the greatest opportunity confronting the mills today is the development of this process."

Mr. Dilling declared that he has installed some long draft roving, eliminating one process out of four on fine yarn—with just as good breaking strength and yarn evenness. When he cut out two processes, however, while the running of the work and breaking strength held up, the variation increased. He is convinced as to the possibilities in eliminating only one process, however; "I have enough of it that I am putting in more of it." Mr. Cobb mentioned here the tremendous decrease in doubling as a result of long draft equipment. In a print cloth mill of the old style, with slubbers, intermediates and speeders, two processes of drawing, etc., the doublings would be 4,608, while with the ultimate in long draft and single roving, the doublings are reduced to 36.

"Which is the better practice, in running 7/8 to 1-inch Middling and better cotton: to card heavy and slow, or light and fast?", was the third question. Stuart H. Sherman, superintendent, Trenton Cotton Mills, Gastonia, reported tests on 1⅛-inch staple for 40s, with drafts ranging from 100—heavy and slow—to 140—light and fast; and said the results showed less ends down and more even and stronger yarn with the short draft. A lot depends on the cotton, said J. A. McFalls, Entwistle Mfg. Co., Rockingham; he said "you can get a better sliver by carding slowly." He recommended a draft of 110 for a 50-grain sliver. Mr. Poovey said on a 57-grain sliver for 10s he gets best results with a card draft of 105. "We are forced to make 57-grain sliver to keep our plant balanced," he said. His doffer speed is 11 r.p.m. F. G. Cobb recalled an Arkwright test of David Clark on card productions, starting with 140 pounds in 10 hours and reducing it 10 pounds at a time down to 75; and said that on Carolina 1-inch Middling cotton, the maximum breaking strength and cleanest yarn was secured with a production of 85 pounds in 10 hours, or 8½ pounds per hour. "Light, quick carding gives the maximum break," he said.

A representative of Cooleemee said his carding production varies during the year; he runs a 64-grain sliver, from 9½ to 14 pounds per hour, and "we like the heavy sliver; we believe that by running as slow as possible we get better cleaning—slow and heavy."

"It seems to me that we are dealing too much with draft," said H. G. Winget, of Textiles, Inc., Gastonia. "I do not know what is best, but the question applies more to weight than to draft."

"The idea of the committee," explained Mr. Dilling, "was to take a card producing the same amount of pounds in a given time, and see whether it would be better to let it go out on the doffer fast or slow. Years ago we came to the conclusion that if we ran the feed roll at the same speed and increased the speed of the doffer to make a lighter sliver, this would give us better results than a slow speed doffer that did not take it off as fast. There is considerable to the theory that heavy feeding allows the licker-in to work on the cotton for a longer period of time, but there is also good theory to having the doffer take it off of the cylinder as quickly as possible. Our results showed that we got better results in producing 10 pounds per hour with a 40-grain sliver than with a 50-grain sliver for the reason that the doffer got it off of the cylinder quicker."

The fourth question asked for the effects of reducing the licker-in speed; two men answered, agreeing that a lower licker-in speed will give a better breaking strength at the sacrifice of cleanliness in the sliver.

Break Draft on Long Draft Slubbers

"What will be the effect on long draft slubbers if break draft is increased one or two teeth? (Total draft 7 to 8)." This was the next question. R. L. Lindsay replied that one or two teeth of change in the break draft doesn't mean much; that "we have made a permanent break draft of 1.05." He said they had tested up to 1.10 and down to 1.02, and "you cannot tell a great deal of difference unless you go above 1.10 or down to 1.00." F. W. Bridges reported difficulty with lapping up on the back roll because of too high a break draft, and he got a better roving by taking out two teeth in the gear.

Running Mixed Fibers

The last question asked, *"What card room changes should be made when running cotton with synthetic or animal fibers?"* Mr. Cobb said the biggest problem is getting the fibers mixed in the right percentages so as to hold shades, particularly in colored work, and that when he had difficulty on a men's suiting with variation in shade due to improper percentages of fibers when a 25 per cent mixture of rayon or wool was called for, he took a discarded picker and made a straight lap of rayon or wool on this and then mixed it with three laps of cotton on his regular picker. He also said that mixing to the right percentages can be done readily on the drawing frame.

Mr. Holt asked whether he reduced the licker-in speed in running mixed fibers and Mr. Cobb answered affirmatively, adding that they closed up all the screens so as not to take waste out of the rayon. Mr. Dilling asked if he had encountered difficulty drafting different lengths of fiber; Mr. Cobb said he ran into this at first but solved it by purchasing a fiber cutter and cutting the rayon and wool to the desired length at the mill. He said that sometimes he carded the cotton before mixing; that this was essential on light shades.

Weights on Drawing Frames

A member asked, *"What is the best weighting on drawing, metallic rolls, front to back, making a 60-grain sliver?"* Mr. Lindsay stated that the machine manufacturers have standard weighting for four-roll drawing, 14 pounds on the first two, and 16 and 18 on the back two. He told of one man who reversed his weights, putting the heavy ones in front, and the sliver tester revealed no difference in the sliver. "It is general practice," he said, "to reverse the weights with common rolls because you have more friction."

J. C. Edwards, general superintendent of Morgan Cotton Mills, Inc., Laurel Hill, N. C., who led the discussion on spinning. Mr. Edwards formerly was general chairman of the Textile Operating Executives of Georgia . . . . . .

"Usually you will find the manufacturers are right on most things," said Mr. Holt, "but I believe there is a possibility of improvement as to weighting the rolls on conventional drawing and roving. I know of one mill that added weight on the roving frames (saddle weighting between the first and second rolls) and they figured quite an improvement in the evenness of the roving and subsequently in the yarn." A member expressed the belief that the speed of the drawing has a great deal to do with the weighting. Mr. McFalls said it is well to use a heavier weight for heavier card sliver.

Round Point versus Square Point Travelers

This concluded the carding discussion and the meeting was turned over to J. C. Edwards who conducted discussion on a set of questions pertaining to spinning. The first was: *"Has a square point traveler any advantage over round point, and if so, what are they?"*

W. S. Hartsell, Salisbury (N. C.) Cotton Mills, described this as a question on which every spinner has fixed and unchangeable ideas. He said that on 13s to 25s, "we use round point travelers. I had the privilege of watching the action of the traveler through a stroborama, and the round point seems to me to be smoother. The square point has more of a quiver to it, and I believe that the smoother the spindle and traveler run the smoother the yarn will be. We have the double-duty traveler, highly finished, and I think that helps it take care of a part of the wear on the point, but aside from that we get the smoother friction around the ring, and I believe the finer the yarn the more it would mean. We tried the square point. The round point does come unthreaded much easier at doffing time, but we were able to eliminate a part of that by our method of starting up the frames."

Mr. Poovey expressed the belief that square point travelers are better on slow speeds and coarse numbers; and that the round point gives better results on higher spindle speeds and finer counters. He said good results are not likely in changing from one type to the other, after the first type has "worn its groove" and become adjusted to the ring.

Chairman Edwards declared that "the traveler, though it be small, is as important as anything else in the mill; for a good many years I have insisted on my traveler suppliers furnishing me with a gauge, and frequently I find something wrong even in the best of travelers." He pointed out that the slightest difference in the tempering or other action in making the travelers will affect them. "It pays to watch your travelers."

Mr. Cauble reported the use of round point travelers on 50s to 60s, and square point travelers on 36s to 40s. He said, "I find the square point will last 25 per cent longer, and do not give trouble flying off as early. And when you first make a purchase, the square point will come 10 per cent cheaper. We have to knock the square point off; we have a system of changing them ever so often."

Mr. Poovey reported using a No. 2, circle 2 traveler on 13s. Mr. Edwards suggested a 1½ circle. Mr. Cauble uses a No. 1, ⅝ circle. As to round point travelers unthreading, Mr. Edwards said this is probably traceable to the use of the wrong circle, and "I would advise you to try a smaller circle."

Traveler Life on Re-Worked Rings

"Is a traveler's life as long on re-worked rings as on new rings?" was the next question. E. W. Knight, A. P. Richie and Mr. Dilling declared they had experienced good satisfaction with re-worked rings, when the work was done properly, and the wear on the ring was not excessive, and that there was no apparent decrease in the traveler life on them. They were referring to spinning rings; Mr. Richie said, "I would advise any fellow with twister rings not to turn them over unless he has them re-worked." Mr. Whitener said, "I have not had any experience with reworked spinning rings, but on twisters we find when you re-work the rings you have to change travelers. We had to go to a shorter traveler, on wet twisting, with bronze vertical rings." Mr. Edwards expressed the belief that on a re-worked spinning ring, "you cannot depend on more than 90 per cent of the flange in re-working a No. 2 flange ring. Has anybody tried converting a No. 2 to a No. 1 flange in the re-working?"

Mr. Edwards also declared that most traveler and ring trouble is traceable to improperly fitted travelers. "I like to see a traveler 'riding up and down' all of the time," he said.

Synthetic versus Cork versus Leather Rolls

The third question was, *"What are the advantages and disadvantages of leather, cork and synthetic rolls on long draft spinning?"*. Mr. Dilling reported: "During the past week I have secured some data on different types of rolls. One type is cork, another type is synthetic that is white, and another is a dark synthetic roll that has some cork in it. On a test on three frames, 48 hours, 252 spindles to each frame, we found that on the cork rolls we secured 4 ounces of clearer waste dark in color, showing that there was very little stock in it. We found no lap-ups on the cork.

"On the light colored synthetic roll, we secured 11 ounces in the same period of time; the waste was much lighter in color, showing there was better stock in it. This roll showed some eye-brows, and we also found that we had no lap-ups on this.

"On the other type of synthetic rolls that was dark and was supposed to have some cork in it, we found 17 ounces of clearer waste—four times as much waste from the one frame in the same period of time as on the cork—it was much lighter in color and it was very

bad about lapping-up. Our spinner said he doesn't believe a spinner would be able to run more than two-thirds the number of sides on that.

"We found also that the atmospheric conditions affect these synthetic rolls, especially on cold mornings; maybe the thermometer is up, but if it has been cold during the night it seems to affect them. The manufacturers tell us they have overcome that trouble, but my experience is they have not. I am not condemning them, because we are going to make further investigations. I think there are great possibilities in these rolls when they overcome these defects; they will last longer. One type we are running successfully on jack frames, but not on drawing."

Mr. McFalls observed that atmospheric conditions will affect cork rolls more than leather. Mr. Dilling said, "Cork standing over the week-end will be slightly fluted, but it goes out rapidly. The same condition prevails on the other rolls, too, but it seems that a cold condition will affect these more than it does cork, so I think unless they get them improved we cannot run them successfully in the winter time." T. C. Pegram, Cooleemee, said he had experimented with three makes of synthetic rolls since March and has found none of them satisfactory. Another man reported difficulty with cork showing up with small holes in the surface which pick up waste and also with Monday morning start-ups.

Mr. Edwards asked Mr. Dilling whether the waste in his report included droppings on the green-board, the under-clearer waste, etc. Mr. Dilling said it was not included in the figures, but that the cork roll had more on the under-clearer than did the dark synthetic roll, and that the guides were somewhat dirtier on the cork.

M. T. Poovey reported an unsatisfactory experience with cork rolls on 18,000 spindles, declaring he went back to leather. This, however, was under conditions where he did not have a buffing machine and use an emery cloth for buffing. He reported bad Monday morning start-ups, saying this was possibly due to the atmospheric conditions and his being unable to buff the rolls properly. He is experimenting with the light synthetic roll and the dark roll containing cork. As to leather rolls, Mr. Edwards declared "there are almost as many kinds of leather as there are sheep in Australia and calves in Texas." He told of an experience wherein, unknown to him, a manufacturer of calfskins had changed his method of tannage which had caused him a great deal of difficulty and that by getting together with the manufacturer and tanner, he was able to get the matter straightened out to the satisfaction of everyone.

The next question asked, "*Is it profitable to install long draft on old spinning frames?*", and the only comment on this was a reference to the fact that it is being done on hundreds of thousands of spindles, and is eminently satisfactory where the machinery is not obsolete.

The last question asked, "*Will spinning run with less ends down per 1,000 spindle hours with shorter traverse and larger ring, or longer traverse and smaller ring?*" Mr. Holt made it more specific by asking whether on 21s warp, 140 r.p.m., 15/16-inch Middling cotton, it would be better to use a 7-inch traverse and 2¼-inch ring, or an 8-inch traverse with a 2-inch ring. No one present was willing to give a specific answer. Mr. Cobb reviewed trends back to 1900, showing that styles seem to change in machinery as well as clothing, that there have been cycles of preference for large rings, long traverses, etc., during the past 40 years. He brought out that with the longer traverse and smaller ring there might be less ends down, on account of the decreased pull on the yarn on the outside diameter, but he and the others seemed agreed that the best answer was made by Mr. Holt, who felt it best to consult with the machine builder on a matter of this kind, in a specific case, rather than discuss a hypothetical, general question, extemporaneously and without benefit of test.

Another Spinning Room Survey?

WE HAVE RECEIVED the following letter from one of our readers and we are passing it along to get our readers' reaction to the proposition set forth:

"I had an occasion to compare our front roll speeds, ends down per 1000 spindle hours, spindle speeds, etc., with those of some other mills. In order to do this I planned to visit a number of mills quite some distance from me, losing valuable time in traveling at a time when my job demanded my presence. I then remembered an article published in the June, 1933, issue of COTTON entitled 'A Survey of Spinning Practice and Results on Print Cloth Yarn', which carried two informative tables. Immediately I took this issue from my library and was able to find the information I desired without having to leave my job or spend any money traveling.

"We are replacing some of our old spinning with new frames, and I know a lot of other mills are doing and have done the same thing. Inasmuch as the spinning information as given in the survey is now over four years old (though still good and valuable), I wonder if COTTON would make another survey and bring these figures more up to date.

"I for one will be willing to furnish any information on spinning that may be asked in the questionnaire incident to preparing the spinning tables."

The information referred to in this letter was secured by sending out a questionnaire to a number of mills, which answered, without revealing the name of the plant or the name of the man giving the information. This was tabulated in a form which was easy to read, and has proven to be popular; we are still receiving requests for copies of this, though the article was run over four years ago; our supply has long been depleted.

This survey covered such points in spinning as yarn number, twist multiple, hank roving used, spindle speed, grade of cotton, front roll speed, diameter of ring, diameter of bare bobbin, gauge of frame, size of traveler, regular or long draft frame, type of spindle, flange of ring, top roll covering, twist multiple of roving, breaking strength of yarn, yards of yarn on bobbin, sides per spinner, spindles per doffer, spindles per section man, band or tape drive, spindles per cleaner, relative humidity, build on bobbin, etc.

As can be seen from the foregoing, much useful information is tabulated that can be used on a comparative basis with your own plant. If you are interested in taking a part in just such a survey as this, write to the editor of COTTON so signifying, and if the response is large enough, another survey will be conducted. Remember, we will not divulge any names. EDITOR COTTON

C & K Box Loom Census

• The Crompton & Knowles survey, reviewed on this page, is accurate and complete so far as that company's looms are concerned, but it should be emphasized, both as to the total figures involved, and the geographical distribution, that against the total of 193,399 C & K looms, the textile industry contains in all a grand total of 811,890 looms of all makes. This figure is taken from a report of the marketing research division of the U. S. Department of Commerce, May, 1936, and is based on reports as of 1933 and 1935. Of the grand total of 811,890 looms, this report lists 625,118 cotton looms; 125,174 rayon and silk looms; and 61,598 woolen and worsted looms. Of the 811,890 grand total, 370,159 looms are located in the South; and 347,414 of the 625,118 cotton looms are in that section.

Crompton & Knowles have done an excellent job as to their looms. It would be highly interesting to see a similar census of the industry as a whole.

A DISTINCT contribution to the information of the industry is the report just issued by Crompton & Knowles Loom Works, Worcester, Mass., on their Census of C & K Box Looms in the United States. This gives complete and accurate information on the sub ject which provides a true and comprehensive picture of this segment of the textile industry; showing the number of such looms in place, classified as to product—cotton, silk and rayon, and woolen and worsted—as to age, geographical distribution, and whether automatic or non-automatic. The compilation provides an extremely valuable and interesting study, of which the following facts are especially informative and important:

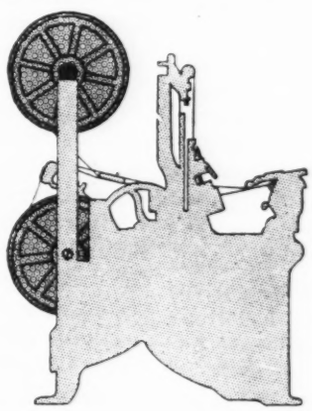
The census comprises authoritative reports from 2,262 mills, in 32 states, listing a total of 193,399 looms. Of this total, 78,205 are cotton looms; 73,075 are silk and rayon looms; and 42,119 are woolen and worsted looms. The percentage of looms 25 or more years old in each group is: Cotton, 37 per cent; silk and rayon, 20 per cent; and woolen and worsted, 51 per cent. Of the C & K looms in each group, the number of automatic looms (as distinguished from non-automatics) expressed in per cent is: Cotton, 44 per cent; silk and rayon, 18 per cent; woolen and worsted, 36 per cent.

Of the automatic looms in each group, the number of looms of the latest design expressed in per cent is: "Cotton, 11 per cent; silk and rayon, 70 per cent; woolen and worsted, 38 per cent.

Of the grand total (193,399 looms), 18.40 per cent are less than 10 years old; 73.48 per cent are over 10 years old; 52.42 per cent are over 15 years old; 35.22 per cent are over 20 years old; 25.48 per cent are over 25 years old; and 8.12 per cent are of unknown age, presumably more than 15 years old.

There are 142,147 out of the grand total of 193,399 looms of all kinds in the northern states, the remaining 51,252 being in the South. Of the northern looms, 44 per cent are silk and rayon; 28 per cent are cotton; and 28 per cent are woolen and worsted looms. In the South, 75 per cent of the looms are cotton; 19.45 per cent are silk and rayon; and 5.47 per cent are woolen and worsted. About 16 per cent of the northern looms are less than 10 years old; and 25 per cent of the southern looms are in this group.

Cotton Looms. Of the total cotton looms (78,205) in the country, the report discloses that six states account for 85 per cent of these: North Carolina and Massachusetts each has over 20,000; South Carolina, Virginia, New Hampshire and Rhode Island come next, each with between 5,000 and 10,000. The remaining 15 per cent are scattered over 18 states. Of the cotton looms, 11.50 per cent are less than 10 years old; 79.12 per cent more than 10 years old; 51.97 per cent more than 15 years old; 38.27 per cent more than 20 years old; 27.49 per cent more than 25 years old; and 9.38 per cent of unknown age.



Of the total cotton automatic looms (34,210), 61 per cent are on gingham and dress goods; 21 per cent on terry toweling; 13.54 per cent on blankets; the remainder on huck toweling, damask, duck, etc. Of these looms, 18.36 per cent are less than 10 years old; the remaining 81.64 per cent are ten or more years old.

Of the total cotton non-automatic looms (43,995), only 6 per cent are less than 10 years old; 79 per cent are over 15 years old. In fact, more than 50 per cent of these looms are over 25 years old.

Silk and Rayon Looms. Of the total of 73,075 silk and rayon looms, Pennsylvania and New Jersey have the majority of these looms, approximately 60 per cent, and North Carolina, Massachusetts and Rhode Island account for 23 per cent, leaving 17 per cent to be scattered over the remaining 13 states. In this group the percentage of looms less than 10 years old (25.38 per cent) is larger than in the cotton and woolen and worsted classes. Both cotton and silk mills which undertook rayon weaving found modern automatic rayon looms to be essential.

Of the total silk and rayon *automatic* looms, more than 80 per cent are less than 10 years old. Less than 14 per cent of the silk and rayon *non-automatic* looms are less than 10 years old. "The small number of non-automatic silk and rayon looms less than 10 years old is attributable to the cessation of non-automatic loom buying which took place in 1931 when the automatic shuttle-changing S-3 loom was introduced. Increased activity in rayon weaving was accompanied by curtailed operation in silk weaving in which non-automatic looms predominate."

Woolen and Worsted Looms. The woolen and worsted looms are concentrated in the Northeast. More than half the looms (63 per cent of a total of 42,119) are located in New England. About 50 per cent of the woolen and worsted looms are at least 25 years old, compared with 20 per cent of the silk and rayon, and 37 per cent of the cotton looms in this age group.

There are 26,889 non-automatic woolen and worsted looms, of which 4.05 per cent are less than 10 years old. The looms in this group of unknown age are very old. With the looms classified as 25 years old and over, they constitute 70 per cent of the total non-automatic woolen and worsted looms. "The small number of looms less than 10 years old is not only because few modern looms have been built as non-automatic looms but because the new non-automatic looms in this group have been classified as automatic since they were built as pick-and-pick looms convertible to automatic operation."

CURRENT TEXTILE TOPICS ....

Talk of the Month

THIS FALL has brought an unprecedented situation for the cotton industry in its relation to business generally. We have seen what temporarily appeared to be an interim minor recession from the first wave of a recovery develop into a demoralized situation, with grave apprehensions of another depression before effects of the recent one have been eradicated. A normal reaction from a record pace, at first accepted as a thing of short duration, was aggravated by the psychology of doubt because of uncertainty as to Federal political-economic policy. Statistically, there is a logical contrast between the high point of cotton mill activity in the spring and the low this final quarter of the year. Record consumption of cotton, with mills absorbing far above 700,000 bales in April and May, could not be expected to last. This was especially true since the rate had run from 600,000 to 700,000 or so for most months since July of 1936.

Normal reaction aggravated by psychology of doubt

Curtailment Foreseen

Thus a declining consumption of cotton for the months since April was no occasion for surprise or discouragement. However, by October the rate had not only gone below the high volume for the corresponding month of 1936, but was under the much lower consumption of the same period in 1935. And coming into the past month the signs were indicative of continued, even greater, curtailment of cotton manufacturing as outside conditions restricted the market for finished goods.

Here was cause for alarm and, as we have said, because of a condition without parallel. At the time of writing, the special session of Congress is under way. Strange to say, the session opened with a radically different situation from that which was foreseen when the President announced that it would be held. The Administration thought to tackle chiefly such issues as wage-and-hour laws and farm legislation. Instead, it came face to face with a crisis.

Before the country was safely out of an emergency situation created by the last depression (that is before it had made any real progress toward elimination of the emergency burdens and accumulated debt) serious apprehensions were created in private circles lest another major depression was imminent. The whole foundation for the drastic setback to recovery progress was lack of faith in private industry to go ahead normally with building and other plans, because of the Administration attitude.

Not strange, in this situation, was the determination of textile manufacturers to resist with all possible force the imposition of further restrictions upon the industry by wage-and-hour legislation. The pressure of buyers through six months for lower prices forced mills to constant concessions in prices, while wages were just previously put at the highest level on record in cotton factories.

Operatives Appreciate Condition Better Than Outsiders

In spite of having to maintain the high wage scales, which brought mills to a losing basis on their goods as prices were forced down, the industry still faced a political element which wanted to regulate further. Those in favor of this plan wanted more for the workers than the operatives themselves were demanding. In fact many of the workers weeks ago began to realize that the textile industry is not an inexhaustible source of revenue—especially some who found plants closing up.

Cotton mills also face another serious issue as the proponents of planned economy once more began talking of the processing tax as a way of relief for farmers who had grown a record crop of cotton. One of the first reactions among cotton manufacturers to the fall forecasts of a great cotton yield was to begin planning for expansion of markets. Then came dismay because this sound idea, a practical way to benefit farmers, was countered by the suggestion of a new processing tax.

Cotton manufacturers have been willing and anxious to see conditions made favorable for growers, on the sound theory that the interests of industry and agriculture are mutual; prosperity for one is contingent upon prosperity for the other. The mill industry saw a chance for wider use of cotton, from the larger production and lower prices. They protested with utmost vigor the suggestion of a processing tax, already tried with disastrous effect, because it automatically works to reduce markets.

In such phases of the general political-economic picture, the cotton textile industry has presented one of the important elements of the crisis recently developed. This situation, in the words of one outstanding commentator in Washington, David Lawrence, will be recorded some day as a turning point of economic history, marking either the beginning of a collapse of the capitalistic system in America or the beginning of an era of peace between Government and business in which the principle of individual initiative and private capital was saved from destruction.

Cotton mills, along with other industries, had a substantial period of prosperity in the first broad wave of recovery that reached its peak in the spring. That movement came in spite of artificial elements in the economic situation as distributors of goods operated to make up for the deficiencies of depression days. Whether a further normal surge of activity will come depends upon reasonable exercise of private initiative during the coming years, encouraged by recognition in Administration circles that there is the wellspring of national prosperity.

New England Mill Situation

CURTAILMENT of mill operations has been the persistent practice and the highlight of the situation in the cotton industry of New England through recent months. This feature of conditions has been necessitated by the discouraging turn in business which brought to a head in November the issue of whether the Administration would turn to the right and a more liberal attitude toward private business, or continue its policy of the New Deal.

Manufacturers of fine cotton goods, among the first factors in business to recognize that undue expansion had taken place in commodities and merchandise in the movement to last spring, began a corrective policy which they thought would take care of a minor reaction. The mills here, however, have run into a serious decline in business which obscured the constructive character of curtailment for the time being.

Ultimately the benefits will appear again, so it would seem, because of the sound statistical position. It formerly took a long time to convince buyers of goods that prices were at rockbottom if mill stocks were piled up at the end of a dull period. Concessions were necessary, even when consumers were manifestly in need of volume, to start the buying movement. In this case, the mills have not been making for stock.

Combed Goods Mills Curtail

Much closing of combed goods mills through the fall was forced because manufacturers could not sell at cost of production. Some downward adjustment of costs occurred on the slump in prices of raw cotton, but against this was the maintenance of the high wage basis. The past six months have set New England mills back severely, because they could not adjust all costs and prices of their goods that were made by the buyers.

Through three-quarters of the year the mills found a very profitable period. The recovery from depression had created the most encouraging mill situation in New England for 15 years or so. But the drying up of business since spring, without commensurate reduction of costs, has led to an unprofitable condition and November brought a resumption of the familiar depression statement, omission of dividends.

While industry has felt the sting of reaction, the over-reaching of the New Deal on behalf of labor has also left its destructive mark. We have alluded to the maintenance of wage scales, but a recession such as seen has at least cooled the ardor of workers toward unionization. Organization, which involves payment of substantial dues, has little appeal when jobs go a-glimmering because industry cannot foot the bills.

Industrialists of New England have shown great courage in the face of discouragements for many years. The recovery has given new courage and community spirit has been aroused which is contributing to the salvation of many industries. At the same time, individual units in some cases have continued to have their troubles and this applies to textiles.

Liquidates and Quits Worrying

Workers of the Aspinook Company, Jewett City, Conn., first cast their lot with the CIO and adopted an independent union when the ran into a snag with the management which led the directors to recommend liquidation of the enterprise. The workers offered to return on the company's terms, but stockholders voted almost unanimously to accept the directors' recommendation. Here was the largest employer of labor and leading individual taxpayer of the city.

Judge Sweeney of the United States District Court recently announced his decision to grant a petition that the liquidation of the Taber Mill of New Bedford, Mass., be allowed. Some months ago the company filed a petition for reorganization under Section 77-B of the national bankruptcy laws. The RFC is the largest creditor, with note to more than $500,000.

Suggestion was made in New Bedford that the Federal government might operate the plant for the manufacture of cotton fabrics to fill requirements of various departments. The alternative, it was stated, would be liquidation and dismantlement. Charles P. Ryan, referee in bankruptcy, was given control of the matter with John H. Backus, trustee, continued in charge of the property pending appointment of a receiver or other disposition of the plant.

Another New Bedford unit, the Neild Manufacturing Company, recently asked authority to reorganize under 77-B. The company, organized in 1910, manufactures plain and fancy cloths. On full schedule, it employs 1100 workers. Assets and liabilities both were listed at $1,392,071.

B. B. & R. Knight Corporation of Rhode Island in October put a new proposal before stockholders, following a reorganization plan offered a year ago and rejected. The meeting of stockholders was called for a date preceding this issue and the matter presumably has been settled. An interesting paragraph in the letter to stockholders, however, suggests confidence in the outlook. It said:

"The prices of most of the goods sold by your company are now lower than at any time since the middle of 1933, in spite of materially higher manufacturing costs. Wage increases in the last year alone have approximated 20 per cent. Current low prices for goods, however, should operate as a stimulant to renewed interest on the part of the consumer and it is reasonable to hope that during the balance of the year industry adjustments will be completed that will make possible a more stable and profitable operation for your company in the year 1938."

Spoerl Succeeds France, Deceased, for Butterworth in New England

Frederick N. Spoerl has been appointed representative in the New England territory for H. W. Butterworth & Sons Company, Philadelphia, Pa., succeeding Thomas W. France, who had represented the company for 33 years, and who passed away suddenly September 26 while returning to his home after visiting friends. Mr. Spoerl has been identified with Butterworth for 25 years, having spent most of his time in the engineering department.

"THE SITUATION"

As Seen Across an Executive's Desk

November 18, 1937

THE SPECIAL 1937 session of Congress convened on November 15. For weeks beforehand every element in industry and business, including that of agriculture, was girding for battle, for the announced two issues were wages-hours legislation and crop control. These two roses, which formerly existed under the NRA and the AAA, smell no sweeter under their new labels. Strangely, they carry no new plan, for it seems certain that the crop control program will be financed through a processing tax on the part of the manufacturers who will also have to regiment their industries on operation and pay schedules, and thereby hike their costs again. It is the same old merry-go-round that we had in 1933, only the tune is different and the horses painted another color.

"The Same Old Merry-go-round"

Hot fights, loud words, and lots of news publicity were given in sections of the country where industry and agriculture thrived, respectively, the theory behind the plan on the part of the farmers being that if they made enough noise opposing the wages-hours bill they could swap that measure for their own particular pot-of-gold: crop control. It is certainly far too early in the game to predict the outcome of either or both of these measures, but is known that clear thinking executives in the manufacturing game feel that industry must be regulated, that such a condition is the only real salvation for industry as a profit making institution as well as industry as a social-minded business. These same thinkers in the textile business are prepared to fight to the last ditch the processing tax method of raising revenue for any purpose whatsoever.

On the other hand, agricultural districts are all for crop control anyway they can get it, not as a method to guarantee stability of their type of business, but as a method to provide bits of bonus money—the kind that comes from the gov'ment and spends so easy. Not until we enlist the Lord Almighty in the crop control program will we ever have any success at it as a theory of workable nature, however. This past season is a good example of that. For several years farmers who participated in crop-control planted cover crops and legumes under federal direction. This year, with normal weather conditions during the growing season, the south will harvest the largest cotton crop in its history: 18,230,000 bales (government estimate as of November 8) on an acreage smaller than that planted in 1926, the year which has up to now held the harvest record. Heavy fertilizing programs and good weather undid in a few months what the Bankhead Act and the AAA had accomplished in four years of operation. With the heavy baleage estimated, and despite the government loan peg of 9 cents, cotton has dropped down around 7 cents spots.

Market analysts are saying today, though, that since we know we have the largest crop in history we at least know where we stand and that with the cotton market reacting strongly after the government report it is indicated that it will hardly go lower. They also point out that on better grades of cotton there is a real scarcity and grey goods buyers must take that into consideration. The latter are warned that there is an inclination on the part of certain buyers to purchase goods of cheaper quality than they would ordinarily specify, because the difference in the price of cotton on the board and good grade cotton needed for their regular run of goods.

It is the opinion of many leaders in all industries that the special session of Congress may have a stimulating effect on business. It is certain that Mr. Roosevelt is at his best in giving any business a shot in the arm with his emergency medicine. The fact that $25,000,000,000 have been wiped out on paper during the last ten weeks constitutes a financial emergency, all right, and since no one has been able to diagnose the cause although everyone is feeling the results of the illness, we may as well decide that it is due to intemperance on the part of business as well as agriculture. The answer seems to be wages-hours plus acreage curtailment. There are many who state it will create another false boom, but what difference will it make? Isn't all prosperity of this generation false? We, as a nation, have gone too far from the solidness of our grandfathers to consider that a roof over our heads, a full potato bin, and a woodpile mean security.

TWOC Members

In a victorious mood last month, Sidney Hillman (chairman of TWOC) announced at Atlantic City that one-third of all textile workers were now in his union after a six months drive which cost the CIO $970,000. Broken down the figures are: 258,150 textile workers covered by contracts, 160,000 who have signed pledge cards, 38,000 unsigned members: a total of 456,150 textile worker members whose getting cost the TWOC nearly a million dollars. It may be a good bargain to Mr. Hillman, but as a professional bargain hunter I have to ask him if he thinks he got his money's worth. And—in face of this and other similar reports, the CIO and the AFL tried to insult each other into an armistice. The peace conference held at Washington was hopelessly deadlocked, and at this writing the next scheduled conference has not met.

With the union activity in mind, it is interesting to read, just at this time, the tale of Fred Beal, communist organizer of some ten years ago, written from exile in Nowhere. Distorted in spots as far as events in certain American textile centers actually proved, it is a good book for textile executives to study today as an inside line on how organization work is begun and carried through to completion. Methods similar to Beal's house to house canvass have been practiced by the CIO and since CIO has been accused of being subsidized by the Communist party it is well for the two organization activities to be examined for they do tally in method.

One of the most interesting trends in the textile

LONGEST LIFE —LOWEST COST

on your most difficult drives!

BELT costs can be reduced! Stretch, slip and frequent take-ups can be eliminated on your heavy duty drives where even speed and high tension are obligatory. That is proved by the record of Goodyear COMPASS Endless Belts in hundreds of mills.

COMPASS' endless rope-cord carcass construction is the most nearly stretchless known, having a far smaller stretch factor than any other belt—*hence fewer take-ups!*

COMPASS Belts are 25% thinner than others of equal horsepower capacity—insuring far less internal friction, longer flex-life and an ever-tight, speed-holding grip on the pulleys.

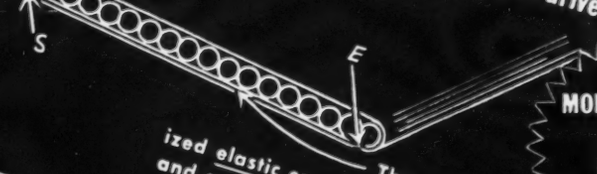
COMPASS Belts are individually specified to your drives after careful analysis of load and lay-out by the G. T. M.—Goodyear Technical Man—assuring the correct weight belt for longest service.

These *mill-proved* COMPASS Belts are made truly endless without splice in the load-carrying element in a complete range of sizes for all standard makes of textile machines; also in small sizes for individual pivoted-base drives. A request will bring the G. T. M. to your mill with complete data. Just write Goodyear, Akron, Ohio, or Los Angeles, California—or phone the nearest Goodyear Mechanical Rubber Goods Distributor.

Goodyear COMPASS "40" on twister drive in large Georgia mill.

GTM-Specified GOODYEAR COMPASS (CORD) ENDLESS BELT for high speed textile drives

Continuously wound layer of stretchless, endless rope-cord carries the load. It has no splice!



Three-ply rubberized elastic envelope, starting at "S" and ending at "E," provides a DOUBLE COVER on pulley side to take the wear.

BELTS
MOLDED GOODS
HOSE
PACKING
Made by the makers of Goodyear Tires

THE GREATEST NAME IN RUBBER
GOODYEAR

industry just now is the announced intention on the part of New England to make a drive to get mills to stay there instead of moving South. Equally intense will be the counter-drive on the part of the South to keep what it has and get more if the getting is good. Recent advertisements have appeared which portrayed advantages for industry which favors any of nine southern states: North Carolina, South Carolina, Alabama, Georgia, Florida, Louisiana, Tennessee, Kentucky and Mississippi. Significant is Mississippi's subsidization program balancing agriculture with industry, first hearings as to constitutionality being scheduled on December 2. Far reaching will be the effects of this hearing and its subsequent appeal to the Supreme Court of the State for the industrial program is tentatively checked because of the desire of prospective industries to insist upon constitutionality of the plan before deciding to establish plants in the state.

New Exchange Rules

Because the raw cotton industry and the cotton manufacturing industry hinge one upon the other it is impossible to separate the problems of both. Therefore it behooves each textile executive to know about the new margin rules recently adopted by the New York Cotton Exchange, made at the request of the Department of Agriculture and announced by Secretary Wallace. The rule is effective January 1, 1938 and is as follows:

"Initial margins equal to not less than those fixed for clearing members by the New York Cotton Exchange Clearing Association, Inc., shall be required of all customers. When customers' margins are one-half exhausted, they must be restored to the initial amount required by the foregoing. Any sales or purchases against a corresponding quantity or approximate quantity of purchases or sales of (a) spot cotton, (b) cotton products or (c) futures contracts bought or sold simultaneously in different months or markets may be exempt from the provisions of this rule, provided, that the carrying member obtains from his customer a written statement that all such trades are covered by this exemption and provided, further, that the member is satisfied that the statement is correct."

The present clearing house rate is $5.00 per bale.

A Worthy Undertaking

One of the outstanding philanthropic projects of the industry is represented by the N. C. Cotton Manufacturers' Association's textile plant at the Stonewall Jackson Training School, Concord, N. C., an institution for delinquent boys. Through the co-operation of the training school officials, various textile mills, machinery concerns, and engineering experts, arrangements have been completed for the establishment of this plant, equipped with modern machinery. It is felt that if the boys of the institution were given modern tools they would become sufficiently interested in the creative field that their future lives might be entirely revamped. Too often waywardness is the direct result of idleness caused from inadequate training.

With more such plans as this promoted by all textile associations we would probably have less misunderstanding in the next generation between labor and capital, if there is such a thing as two factions in existence then.

Piedmont Section of AATCC Meets; Rupp Elected Chairman

R. E. RUPP, general superintendent of the finishing plant of Pacific Mills, Lyman, S. C., was elected chairman of the Piedmont section of the American Association of Textile Chemists and Colorists, at its winter meeting at The Carolina, Pinehurst, N. C., on Saturday, November 6. He succeeds Thomas R. Smith, of Wiscassett Mills Co., Albemarle, N. C., who was made national councilor from the section. Edgar Ford, of Sayles-Biltmore Bleacheries, Biltmore, N. C., was made vice chairman. J. W. Ivey, of Mathieson Alkali Works, Charlotte, N. C., office, was made secretary, and H. Grady Miller, of Hickory Hosiery Mills, Hickory, N. C., was re-elected as treasurer. A. H. Gaede, of Laurel Soap Mfg. Co., the retiring secretary, was made the section's representative on the national nominating committee. The new executive committee for the section consists of R. H. Souther, T. W. Church, Jr., R. D. Sloan, and H. O. Pierce.

There was an excellent attendance at the convention, which started with a golf tournament on Saturday morning, and continued with a technical session in the afternoon, and the banquet on Saturday evening. There were more than 200 members and guests registered.

The technical session on Saturday afternoon was devoted to discussion of two papers, one by R. M. Stribling, of American Enka Corporation, on "The Dyeing and Finishing of Spun Rayon Fabrics"; and another on "The Causes and Corrections of Some Hosiery Defects", by H. H. Mosher, of Onyx Oil and Chemical Co.

At the banquet, Harold Dewitt Smith, of A. M. Tenney and Associates, sales agents for Tennessee Eastman Company, spoke on the properties of acetate rayon yarns as related to their dyeing and finishing.

The golf tournament was entirely a blind bogey arrangement, with handicaps being drawn. R. E. Sumner, of Calco Chemical Co., won low net prize, a golf bag; Pete Gilchrist, of Charlotte Chemical Laboratories, won second low net, a golf club; and J. Van Loan won third low net, a golf club. J. P. Bauer, of Ciba Co., Inc., was awarded a raincoat as the prize for high net score; and McGee Calhoun, of Ware Shoals Mfg. Co., received a chipper club for high gross score. Graham McNair won an umbrella in a drawing from the registration card numbers, and William Woolhare's name was drawn for a prize awarded among those who had made advance reservations for the meeting.

The convention dispatched messages of sympathy to Paul F. Haddock, who is seriously ill, and to G. S. McCarthy, whose wife had just passed away. The members stood in silence for a moment in memory of Webb Hunt, of Greensboro, a faithful charter member of the organization who recently passed away.

Dame Nature LOST HER YARDSTICK

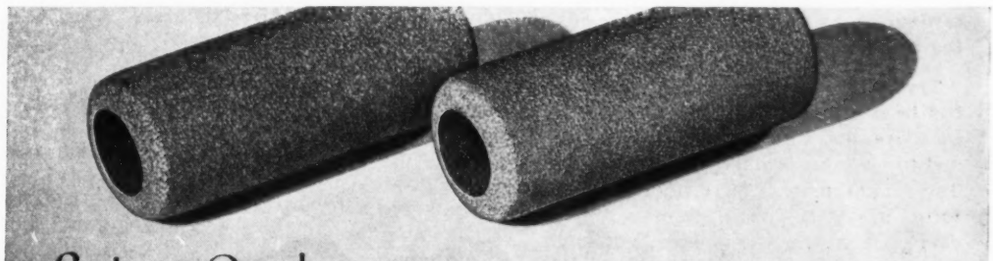
YOU'VE heard the saying,—"alike as two peas in a pod." But it's not so. Neither the peas nor the pods are alike. Nor will you find any raw product of nature that possesses uniformity, the quality so essential in roll covering material.

But, there is one roll covering you can be certain is uniform. It is Armstrong's Cork. This fabricated product is *scientifically controlled* through every exacting step of its manufacture. Each cot is like every other cot, uniform from end to end. That is why Armstrong's Cork Cots insure better running work and stronger, more uniform yarn. That is why they last longer. That is why, after serving their normal life, they can be made new again, simply by rebuffing.

Even with these benefits, the first cost of Armstrong's Cork Cots is no higher than other roll covering materials. And there's an extra saving in lower assembly cost.

Decide today to benefit from the many savings made possible by Armstrong's Cork Cots . . . the fabricated roll covering that is always uniform. Write to Armstrong Cork Products Company, Textile Division, 923 Arch Street, Lancaster, Pa.

CORK PRODUCTS
SINCE 1860



ARMSTRONG'S *Extra Cushion* **SEAMLESS CORK COTS**

WHAT THE SOUTHERN MILLS ARE DOING

MORTON MACHINE WORKS, Columbus, Ga., manufacturers of raw stock, beam, and package dyeing machines, have announced installations at Texas Textile Mills, Dallas, Tex.; Richmond Hosiery Mills, Rossville, Ga.; Callaway Mills, LaGrange, Ga.; Mandeville Mills, Carrollton, Ga.; Bibb Manufacturing Company, Macon, Ga.; Fairfax (Ala.) Mills; Minneola Manufacturing Company, Gibsonville, N. C.; L. Banks Holt Manufacturing Company, Graham, N. C.; Pee Dee Manufacturing Company, Rockingham, N. C.; Muscogee Manufacturing Company, Columbus, Ga.; and Swift Manufacturing Company, Columbus, Ga.

Gainesville (Ga.) Cotton Mills have announced the completion of a modernization program. The carding and spinning divisions have been revamped, 75 spinning frames have been changed to Saco-Lowell long draft spinning, and 24 fly frames have been replaced with the same number of 8x3½ Saco-Lowell frames, 16 of which are equipped with modern chain drive.

Bibb Manufacturing Company, with several plants located in Georgia, has purchased the Meritas Mills buildings and real estate in Columbus, Ga. No announcement has been made concerning the immediate operation of this plant. The Meritas, formerly an 80,000-spindle mill, has been closed for about two years and most of the machinery has been removed.

Springs Cotton Mills, Lancaster, S. C., has made plans for an addition to the weave room, which will be two stories of steel and brick construction, approximately 300x150 feet, and which will house 40-inch looms. With this addition, the weaving at Lancaster will total nearly 7,000 looms.

Georgia-Kincaid Mills, Griffin, Ga., are undergoing an extensive program of modernization. Obsolete equipment is being replaced with modern machinery. It is understood that Plant No. 4 is to be abandoned and the machinery moved to Plant No. 2 outside of the city limits.

Tryon (N. C.) Processing Company has been granted a charter to engage in a general manufacturing business and to manufacture and process yarns. The capital stock is $20,000. Incorporators are F. S. Wilcox, Rosa B. Wilcox, and Austin K. Wilcox, all of Tryon.

Rosemary Manufacturing Company, Roanoke Rapids, N. C., plan to construct a 3-story addition to the plant, with J. E. Sirrine & Company, Greenville, S. C., as the engineers and architects. It is expected to cost about $60,000.

Carolina Rayon Mills, Burlington, N. C., has opened bids for the re-roofing and painting of all buildings. The plant was originally built as the A. M. Johnson Rayon Mills, but has been closed for some years.

Riverdale Mill, Riverview, Ala., a division of the West Point (Ga.) Manufacturing Company, has completed the overhauling and aligning of the machinery, the work being done by The Dixie Spindle & Flyer Company, Charlotte, N. C.

Cotton Mill Products Company, Winona, Miss., have installed the necessary equipment, including that for the dyeing department, for the manufacture of bed ticking.

Blue Ridge Rayon Mill, Altavista, Va., has been awarded a merit certificate for having completed a statewide accident prevention campaign during May, June, and July without a lost-time casualty by the Virginia Manufacturers' Association. The mill won a similar award last year.

Mooresville (N.C.) Cotton Mills have installed a twin kier dyeing machine, package carriers, and auxiliary equipment, furnished by The Gaston County Dyeing Machine Company, Stanley, North Carolina.

Jackson County Mills, Pascagoula, Miss., which are being built, have planned a 120x282-foot addition to the plant. Work is being handled by Knost Construction Company, Pass Christian, Miss.

Mathews Cotton Mill, Greenwood, S. C., is building an addition, which is expected to be ready for occupancy early in 1938. The company is also building additional operatives' homes.

Hermitage Cotton Mills, Camden, S. C., have installed 100 Model-X looms. Construction of a new mixing room, cloth storage department, and supply department has been completed.

Tennessee Valley Textile Mills, Rockwood, Tenn., formerly the Roane Textile Mills, are expected to re-open shortly after having been closed for some time.

Application for charter has been made by Chandler Manufacturing Company, to be located at Toccoa, Ga., by F. C. Chandler, I. V. Chandler, and B. A. Malcom.

Superior Yarn Mills, Mount Holly, N. C., and Threads, Inc., Gastonia, N. C., have both made installations of hot waxing attachments on their winders.

Capps Cotton Mill, Toccoa, Ga., has been sold to an unidentified textile firm. It is understood that the plant will be in operation in the near future.

Virginia Mills, Inc., Swepsonville, N. C., have constructed an addition to the plant, which manufactures cotton and rayon dress goods.

American Enka Corporation, Enka, N. C., will spend about $500,000 in the next few months on improvements, it has been announced.

Davidson (N. C.) Cotton Mills have had their fly frames aligned and leveled by the Guillet overhauling system.

Southern Weaving Company, Greenville, S. C., has constructed a one-story building to be used primarily for an office; the cost was about $22,000.

Opelika (Ala.) Mills are having their automatic spoolers equipped with vacuum lint and dust collectors.

High Falls (N. C.) Manufacturing Company is building a modern school for children of the operatives.

Aragon (Ga.) Mills have contracted for an addition to the plant totaling 25,000 square feet.

Erwin Cotton Mills Company, West Durham, N. C., has begun construction of a new switch house.

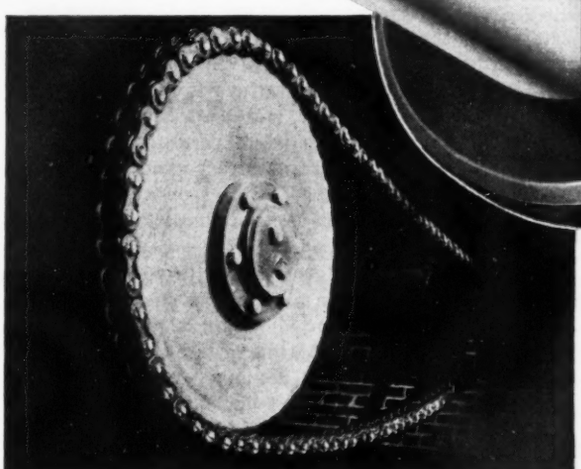
Springs Cotton Mills, Fort Mill, S. C., have completed 39 dwellings for the operatives.

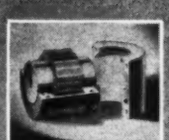
Graniteville (S. C.) Manufacturing Company is remodeling one of its five plants.

Carter Mills, Lincolnton, N. C., has installed a 600-hp Diesel engine.

TO SEE THE *Superiority* OF

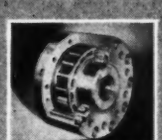
MORSE ROLLER CHAINS





MORSE STANDARD COUPLING—Two hardened steel sprockets wrapped in a length of Silent chain.

MORSE SILENT CHAIN—The famous Morse "rocker joint" boosts performance records, cuts maintenance costs.



MORSE KELPO CLUTCH—A free-wheeling clutch for use in power plant applications.

HOLDS 70% MORE OIL THAN ORDINARY CHAINS!

Morse Roller Chains turn on a film of oil drawn from reservoirs inside every roller—reservoirs that take in and hold 70% more oil than ordinary roller chains. In a nutshell, that's the performance secret of Morse Roller Chains. More oil, where oil is needed.

In Morse Roller Chain, oil cushions every movement. Clanking, jarring, jerky operation is barred out. Long and short links that develop in most roller chains are eliminated because wear is spread thin over the entire length of the chain. Smooth, even, positive power transmission—98.6% efficient—with Morse Roller Chains!

With all their advantages, Morse Roller Chains cost no more!

The Morse representative in your territory is ready to consult with you on your power drive problems. Call him in—or write direct to Morse, Ithaca.

SILENT CHAINS ROLLER CHAINS FLEXIBLE COUPLINGS KELPO CLUTCHES

MORSE *positive* DRIVES

MORSE CHAIN COMPANY ITHACA N. Y. DIVISION BORG-WARNER CORP.

COMMENT on the Cotton Market

New Orleans, November 13, 1937

THE EVER increasing acreage production of cotton in the United States this year continued during the month of October. As a result the indicated yield per acre, as of November 1, averaged the enormous total of 258.8 pounds versus 249.3 October 1 this year, 197.6 last year, and the ten-year, 1923-32, average of 169.9 pounds.

Accordingly, the government's crop forecast, as of November 1, pointed to a yield, in bales of 500 pounds, of 18,243,000 bales, the largest production on record comparing with 12,399,000 bales last year, an increase of 5,844,000 bales.

Moreover the prediction for foreign growths this season is about 20,100,000 bales, the largest on record also, versus 18,325,000 bales last season, a gain of 1,775,000 bales.

Action on the Market

In early part of the period under review the market developed support because of values being below the government loan level less hedging, more active goods, and owing to calling of Congress into special session, largely to deal with crop control for next year. Subsequently values lost some of the improvement owing to the enormous crop forecast November 8 when some options touched new low price levels for thus far this season. A resumption of buying made its appearance however, there was less hedging, and there was some investment demand, causing the market to recover somewhat.

Based on the latest of reliable reports, the trade is confronted with a total probable supply of raw cotton for this season of about 51,413,000 bales, against 44,349,000 last season. If world consumption of all kinds be as large as it was last season, 31,000,000 bales, the world's carry-over of all kinds at the close of this season, July 31 next, would probably be about 20,400,000 bales, compared with last season's 13,313,000 bales.

But much of the United States crop will likely move into the government loan holdings, and in that way would likely be kept off the market until conditions become more favorable for marketing.

Much interest will be centered on Washington developments, especially as concerns the matter of crop control, etc. The disturbing international political situation is not to be lost sight of since important developments are apt to come about, particularly as regards conditions in the Orient.

The large amount of cotton which is going into the loan, and the character of farm legislation that may be adopted by Congress will undoubtedly play an important part in shaping the future course of the market. There seems to be assurance that a large part of the carry-over at the close of this season will be in the hands or under the control of the government, perhaps long before the season ends since much cotton is finding its way to the loan already, and it is likely that a large percentage of existing stocks are in process of going into the loan. At any rate the smaller receipts of late and the much smaller spot sales lately than for corresponding period last season, serve to indicate that the holding and loan movement is becoming widespread. To this, at least in part, is attributed the falling off in hedging of later. Therefore, it is probable that the trade will continue to buy, especially on depressions as long as the price remains under the loan level.

Cotton ginned to November 1, as reported by the Census Bureau, amounted to 13,164,000 bales, the largest on record to that date, and compared with 9,883,000 to corresponding date last season.

Government's weekly crop summary for week ended November 9th was in substance: "There was considerable rainfall in the upper Mississippi valley cotton districts, but otherwise, where gathering the crop has not been completed, there was very little and the week was favorable for harvest."

CENSUS REPORT

United States— Bales—	This season	Last season
Consumption of lint, October	526,000	651,000
Consumption of lint, 3 months	1,733,000	1,856,000
Mill stocks, October 31	1,419,000	1,413,000
Stock in pub. stg. & whs., Oct. 31	9,758,000	8,034,000
Stock in mills, pub. stg. & whs., Oct. 31	11,177,000	9,447,000
Active spindles during October	23,724,000	23,662,000
Active spindles during September	23,887,000	23,519,000
Consumption of lint in Cotton Growing States, October	450,000	546,000
In New England States	63,000	81,000
In All Other States	13,000	21,000
In United States	526,000	651,000
Consumption of lint in Cotton Growing States, 3 months	1,467,000	1,553,000
In New England States	219,000	244,000
In All Other States	47,000	59,000
In United States	1,733,000	1,856,000

BRITISH BOARD OF TRADE REPORT FOR OCTOBER

Year—	1937	1936	1935
Exports of yarn, pounds	13,000,000	13,000,000	13,000,000
Exports of cloth, yards	157,000,000	178,000,000	161,000,000

AMERICAN COTTON

August 1 to November 12— Bales—	This season	Last season
Brought into sight (marketed)	8,934,000	8,221,000
Exports from U. S., incl. Canada	2,100,000	1,952,000
Spinners takings, world	3,880,000	4,447,000
Stock at all U. S. ports, Nov. 12	3,227,000	2,887,000

WORLD'S VISIBLE SUPPLY OF COTTON

November 12— Bales—	This year	Last year
American	8,050,000	7,190,000
Other kinds	1,569,000	1,846,000
All kinds	9,619,000	9,036,000

Textile Patents Awarded

According to Paul B. Eaton, patent attorney, Charlotte, N. C., several textile patents have been awarded recently. John F. Schenck, Sr., Lawndale, N. C., was awarded broad claims on a method and means for winding a plurality of balls of cord from one continuous strand and packing of all the connected balls in a container so that, regardless of length of cord desired by the customer, it can be furnished by the storekeeper with no knots therein, as the balls are connected together by the cord. Edgar R. Bond, Greensboro, N. C., was granted a patent on a method for making loom reeds having two staggered dents therein. Carl C. Sorensen was awarded a patent on feeding means for twisters and doublers in which two or more strands are passed around separate rollers driven at different speeds and whereby some of the strands are fed to the twisting or doubling apparatus at a faster rate than the other strand or strands. Other patentees include: Hugh D. Camp, Roanoke Rapids, N. C., for method of manufacturing mottled fabrics; H. H. McKinney, Candler, N. C., for artificial silk washer; Joseph B. Burgard, Greenville, S. C., for thread counting device.

Change in Name

Effective last December 30th, the name of The New Departure Manufacturing Company, Bristol, Conn., was changed to New Departure, Division of General Motors Corporation.

NEW TEXTILE EQUIPMENT—PUBLICATIONS

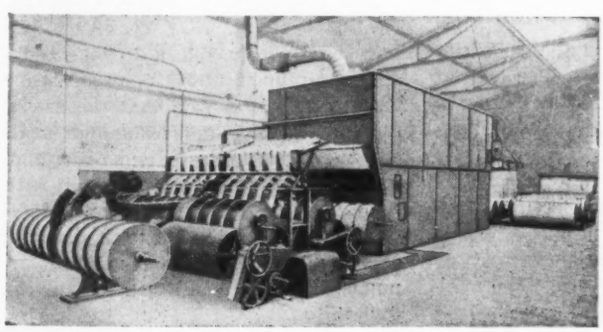
Mobile Laboratory

Graton & Knight Company, office, 356 Franklin St., Worcester, Mass., have a unique manufacturing plant on wheels—the traveling laboratory. It is designed to duplicate the power transmission problems of manufacturers who are actual or potential users of the company's research leather belting and to show how these problems may be solved. With the push of a button, the machines in the mobile laboratory may be operated either by a modern system of mechanical drive, using belts, pulleys, and shafting, or by the unit drive system. The cost of manufacturing measured quantities of production by each system can be observed. Incorporated in the mechanical power transmission system is a drive on which all types of flat belts may be tested. The traveling laboratory is 35 feet long, 9 feet high, 7 feet wide, and weighs 20,000 pounds. A sales engineer travels with the unit. Routes have been planned enabling the mobile laboratory to cover every industrial section of the United States.

Mobile laboratory for power transmission problems

Card Sliver Drying Machine

American Obermaier Corporation, 11-22 49th Ave., Long Island City, N. Y., has published a folder descriptive of the card sliver drying machine. It is illustrated and shows various parts of the machine in action. A turntable device is used for handling card sliver beams. This is a simple arrangement which enables the empty beams to be removed and replaced practically without interruption. An electric hoist places the full beams in position. In the drying chamber the ventilators are directly coupled to the motors to form a single unit. Both a vertical and horizontal feeding table may be had with the unit. Good accessibility of the slivers, ease of inspection, and efficient guides are said to be special features of this construction. The spindles may be changed semi-automatically, the full spindles being rolled by hand over a horizontal guide to a vertical turntable; when the full spindle is rolled into the changing device, it rotates the turntable by its weight and lifts the spindle with the empty bobbin to the highest point. The delivery end is in a V shape and the slivers are delivered at a low accessible level. The empty spindles are in readiness for use and are kept suspended at a high level. Fresh air enters the machine at the delivery end and is circulated alternately through the slivers and heating elements until it reaches the end of its path in completely saturated condition at the feeding end, where the wet slivers are in contact with the hot saturated air. The air is heated in compact units which are supplied with steam or pressure hot water, or with electric current.



New machine for drying card sliver

Bulletin on Productimeters

Durant Manufacturing Company, 1925-1929 N. Buffum St., Milwaukee, Wis., has distributed a bulletin on productimeters, instruments for counting and registering. The bulletin gives illustrations and short descriptions of 50 styles of counters, making it easy for a mill buyer to select the style of counter that seems most suitable for his machine, conveyor, or other equipment.

Rayon and Acetate Fabric Softener

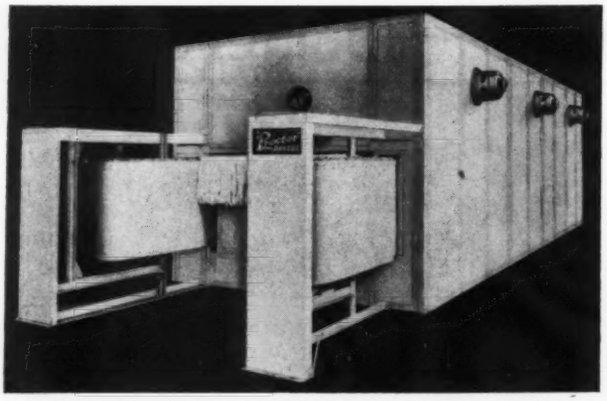
National Oil Products Company, Harrison, N. J., has announced a new softener, known as NOPCO 2105, for acetate and rayon fabrics. The new product is the result of extensive study by research chemists in the company laboratories on chemical composition of textile fibers. It is said that only a "fraction of a per cent is sufficient to produce a pleasing, soft hand" on acetates and acetate mixtures. This softener is said not to alter the shade of dyed material, is resistant to hard water, oxidation and rancidity, and does not attack or weaken textile fabrics. It dissolves completely in hot water, is easily applied, and is stable in acid, alkaline or neutral solutions.

Bulletin on Electric Flow Meters

The Bristol Company, Waterbury, Conn., has published a new bulletin, No. 494, illustrating applications and outlining the special features of the company's new electric flow meter. Information regarding the simplicity of construction and high accuracy of these new instruments may be obtained from the bulletin.

Foxboro Folder

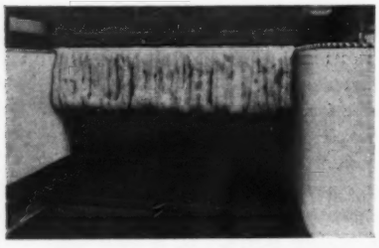
The Foxboro Company, Foxboro, Mass., has released a 16-page folder describing the significance of the seal of certification which is now attached to every Foxboro instrument. The folder also contains illustrations of more than 20 instruments which are representative of the entire line. Separate sections discuss thermometers, pyrometers, controllers for pressure, and a number of other instruments made by the company.



New automatic skein yarn dryer .

Automatic Skein Yarn Dryer

Proctor & Schwartz, Inc., Philadelphia, Pa., has been assigned a patent granted to A. O. Hurxthal for a new automatic skein yarn dryer. One of the features of the dryer is a unique traveling skein protector which consists of a flexible material, hung skirt-



Close-up of skein protector

fashion from the chain conveyor so that it travels with the poles and prevents the yarn from rubbing, fraying, snarling, or soiling in its passage through the machine. This is said to permit the full loading of every pole to its very ends, instead of leaving three or more inches of space at the ends. The skein protector holds the skeins on every pole compactly between two traveling walls which force the drying air currents to follow an undeviating course, straight down through all the skeins. All the air must go through the skeins, thus drying every skein alike and in the same amount of time, from end to end of the poles.

Splash-Proof Motors

Reliance Electric & Engineering Company, Ivanhoe Road, Cleveland, O., has issued literature pertaining to the splash-proof Type AA, 2- and 3-phase ac squirrel-cage motors. This improved motor is said to be another step toward reducing maintenance costs and prolonging the life of squirrel-cage motors. Without shutting off ventilation from the windings it is said to afford effective, low-cost protection in locations where the air is mostly clean but the motor is subjected to splashing liquids and dirt falling from above. For a given frame size, the same horsepower and speed ratings are obtainable as in the open type; mounting dimensions are the same; the weight is the same. The literature is illustrated and shows cut-away views of the motors.

Planned Power Transmission

Power Transmission Council, with headquarters at 75 State St., Boston, Mass., has published literature that announces the expansion of a plan which has helped increase sales of power transmission equipment. The prevailing theme is the selling of the modern group drive. The Power Transmission Council, according to the literature, is a national organization, incorporated and managed by a board of directors and a competent experienced headquarters staff. The program is supported by many plant surveys and continuous research and is said to be adding constantly to the fund of material available for use in sales work. Power transmission clubs are located in various cities throughout the country.

Pepperell Broadcast

Pepperell Manufacturing Company has made its bow to a national radio audience, the first broadcast being presented November 5 at 7:15 P. M. (Eastern Standard Time). The programs, consisting of intimate 15-minute talks each Friday night by Dr. Karl Reiland, are presented through the blue network of the National Broadcasting Company. The program has already attracted widespread interest.

Corn Products Booklet

Corn Products Refining Company, Argo, Ill., has released a 16-page illustrated booklet outlining the activities of the company at Argo. The booklet tells that the manufacture of corn products occupies a distinguished position in the industrial structure of this country, being purely American in its origin and development, having abundant raw material. A process chart is included showing the products and by-products of kernels of corn. The manufacturing process is also described

New Socket Seal Developed

The Fostoria Pressed Steel Corporation, Fostoria, O., has developed a socket seal to prevent the entrance of certain foreign particles into the space between the lamp base and the socket. It is a molded rubber collar for medium base lamps which fits over the open end of the socket so that when the lamp bulb is inserted the socket-lamp union is fully protected. This prevents the frequent shorts resulting from dirt, chips, grindings, cutting oils, etc., which might enter the socket. The seals are packed 25 to the box.

1937 A. S. T. M. Compilation

The 1937 edition of the A. S. T. M. compilation of Standards on Textile Materials gives all of the 44 standard specifications, test methods, and definitions issued by the Society. In addition there are given psychrometric tables for relative humidity. 40 pages of the 306-page publication are devoted to extended abstracts (with figures and illustrations) of the 11 technical papers presented at meetings of Committee D-13 during the past year. Copies of the compilation may be obtained from American Society for Testing Material headquarters at 260 S. Broad St., Philadelphia, Pa., for $2.00 in heavy paper binding.

New Friez Condensed Catalog

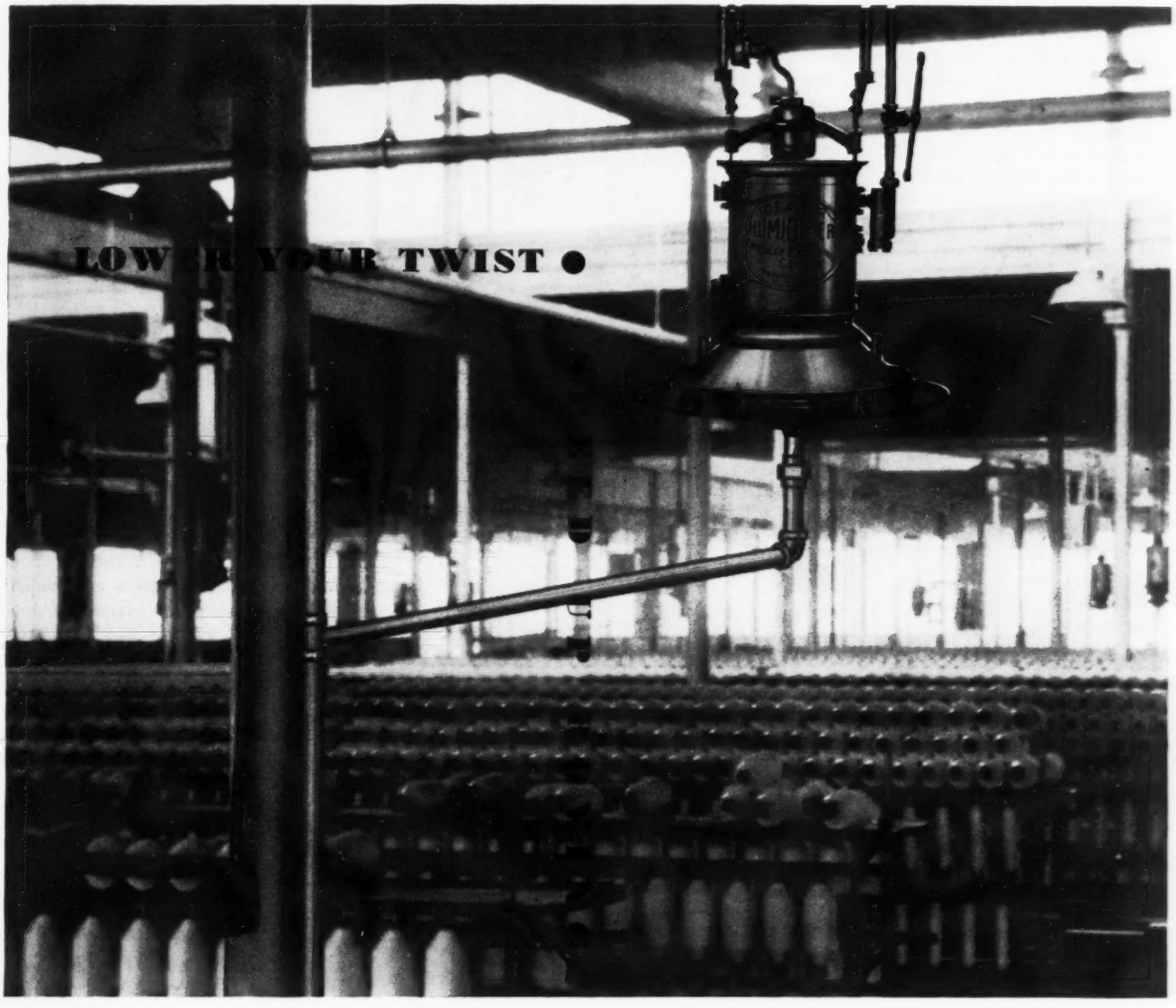
Julien P. Friez & Sons, Inc., Baltimore, Md., have made available a new condensed catalog of air-conditioning products, Bulletin K. It is conveniently punched for filing, contains illustrations, brief descriptions, and lists prices of the complete line of instruments made by the company.

Folder on Stainless Steel Equipment

S. Blickman, Inc., Weehawken, N. J., has published No. 2 in a series of folders descriptive of the company's stainless steel equipment. No. 2 pertains to stainless steel dry cans, mixing tanks, rectangular tanks, and material handling trucks, all of which are illustrated.

International Nickel Bulletin

The International Nickel Company, Inc., 67 Wall St., New York City, has released Bulletin U-3, a 15-page booklet pertaining to nickel alloy steels for hand tools. It is said that the use of alloy steel for hand tools and small power tools is indicated wherever high strength and toughness, combined with light weight, improved wear, and fatigue resistance, high impact strength, or better ductility, are demanded. A number of tools are illustrated in the bulletin.



● LOWER COSTS!

AMCO PIONEERED THE SELF-CLEANING ATOMIZER

Amco No. 4, the first automatically self-cleaning atomizer — both air and water nozzles. Eliminates manual cleaning labor. Delivers smoke-like spray, without drip or feathering down.

In Roving Departments, many mills employ excessive twist to provide a sliver strong enough to prevent constant breakdowns. It is well to remember that delivery roll speed *decreases* with every increase in twist. Production drops with it.

Amco humidification in Roving Departments, from slubbers to final delivery, creates economies through elimination of static electricity, through greater speeds, lower twist, more even delivery, easier draft in spinning.

Every Amco installation is tailor-made, with the proper device and control for every characteristic, and the benefit of years of study in cotton, woolen, worsted and rayon manufacturing processes. There is no other way to provide "money-making air". American Moistening Company, Providence, R. I., Boston, Mass., Atlanta, Ga., Charlotte, N. C.

AMCO HUMIDIFICATION

TAKE YOUR TEXTILE HUMIDIFYING JOB TO THE TEXTILE HUMIDIFYING SPECIALIST

New Line of Fabricated Loom Strapping

Boston Woven Hose & Rubber Co., P. O. Box 1071, Boston, Mass., have developed a new line of loom strapping under the name of "Bull Dog", which is a composition of high-grade cotton and rubber, mechanically made to precision measurements, of the same thickness throughout its length. It is available in rolls of from 250 to 500 feet, and in width to fit all standard looms, and may be cut, punched or slotted readily without waste.

The manufacturers point out that, being composed of cotton thoroughly impregnated with rubber, this strapping is practically impervious to the action of moisture, and because of this, does not stretch or develop any permanent "set"; this, it is pointed out, obviates shortened straps or lengthened straps; and even thicknesses prevent "cocked" harness and attendant weaving defects.

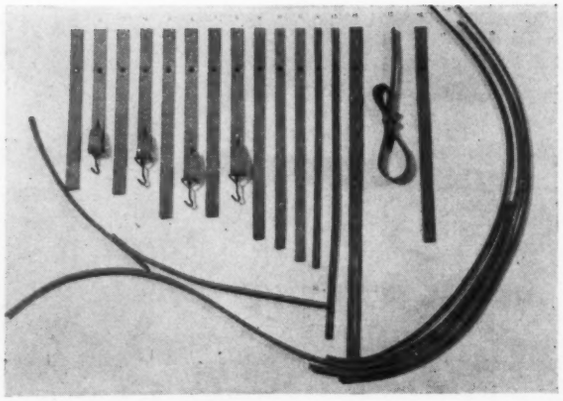
New Pyrometer

The Pyrometer Instrument Company, 103 LaFayette St., New York City, has placed on the market a new instrument called the Pyro Micro-Optical pyrometer; this instrument is described in the company's catalog No. 90, available on request.

Crush-Proof Process for Rayon Pile Fabrics

The rayon department of E. I. du Pont de Nemours & Company, Wilmington, Del., has announced a new crush-proof process for rayon pile fabrics of the type of transparent velvet, designed particularly for transparent velvets with a rayon pile and silk back. The new process (U. S. Patent 2,080,-043) imparts to the pile an unusual resistance to crushing, it is pointed out.

This new finishing process, which has been adopted by a number of the leading velvet manufacturers, involves treating the fabric with a solution of formaldehyde in water, in the presence of a suitable catalyst such as ammonium chloride. Tests have shown that velvet thus treated resists pressure, such as sitting or walking upon it, without injury; the pile is temporarily flattened, but rapid recovery takes place when the pressure is removed. It is explained that the finish causes no appreciable increase in weight; makes the fabric fast to dry-cleaning, and proof against injury by washing. Pile fabrics made crush-proof by this process may also be made resistant to spotting, it is pointed out, by subsequent treatment with a suitable water-repellent finish.



Illustrations of some of the new line of fabricated loom strapping

"Annual Cotton Handbook"

The 67th *Annual Cotton Handbook* published by Comtelburo, Ltd., 11 Tokenhouse Yard, London, E. C., England, has been made available. Besides the regular features, this edition has four pages giving the monthly arrivals and stocks in the Japanese ports and in Shanghai for two seasons. The book contains particulars on all growths of cotton for which figures are obtainable, and gives world-wide statistics, and is therefore international in character. It is said to provide the most complete record available in regard to cotton.

Floor-Service Turnlox

Benjamin Electric Manufacturing Company, Des Plaines, Ill., has further improved the patented Turnlox construction and it now permits the reflector and lamp to be cleaned quickly and easily without the use of ladders or the necessity of getting off the floor. This Floor-Service Turnlox permits easy removal of reflector, globe, and lamp from the socket in one, quick 90-degree twist. Electrical and mechanical connections are made with the socket through a substantial 3-point, self-centering, bayonet lock.

. . . for removing reflectors and lamps

Four-Blade Propeller Fan

The Trane Company, LaCrosse, Wis., has perfected a new propeller fan scientifically constructed for quiet operation and high efficiency. The fan is built with 4 curved steel blades of large area, set at an angle of 30 degrees with the plane of rotation. The curvature of the blades is so formed to insure the leading edges entering the air stream without shock. Their wide tips provide for the gradual acceleration of the air particle, said to be so essential where quiet operation is to be attained. The fans are being incorporated into unit heaters, coolers, evaporative condensers, and other apparatus requiring relatively large volumes of air at moderate pressures.

Bulletin on Condor Compensated Belts

The Manhattan Rubber Manufacturing Division of Raybestos-Manhattan, Inc., Passaic, N. J., has issued a new illustrated 4-page bulletin on Condor compensated belts. In addition to describing the reason for compensating rubber and the compensated principle, the new folder explains in detail the advantages of this type of belt. Engineering data essential to the proper selection, application, and supervision of belts are also included.

New Dye Color

E. I. Du Pont de Nemours & Company, Inc., Dyestuffs Division, Wilmington, Del., has a new direct color, Pontamine Fast Blue SRL, which is a fast-to-light color and which produces reddish shades of blue of good tinctorial value on cotton and rayon materials. The color is announced in the usual loose-leaf form for ready filing.

Chamberlain Officer of Warwick

Mr. Dale S. Chamberlain was elected vice-president of the Warwick Chemical Company, West Warwick, R. I., at a recent meeting of the board of directors. Donald S. Collard was appointed chief chemist.

THERE'S NO SUCH THING AS AN "ALL-PURPOSE" MILL WHITE!

No single white interior paint can withstand all the varied conditions prevailing in every modern plant. For ordinary interior painting use, you need a "general" paint. In Save-Lite regular, the basic Sherwin-Williams Save-Lite, you will find the greatest light reflection, cleanliness, durability and economy possible to produce in a white paint for all ordinary plant interior painting.

For those sections of your plant subject to varied degrees of heat and fumes, Sherwin-Williams has specially formulated several types of fume-resisting Save-Lite. Each has been made to do a special job—more *economically*.

The Sherwin-Williams Painting Engineer will gladly specify the correct type of Save-Lite to use in any part of your plant. Let him make a survey. No cost or obligation.

FREE—this complete report on "Plant Conditioning." Every plant operator should have it. Write The Sherwin-Williams Co., Cleveland, Ohio, and all principal cities.

Visitors to Firestone Cotton Mill, Gastonia, N. C., never fail to notice its bright, efficiently lighted, "span-clean" interiors. Another Sherwin-Williams Save-Lite plant painting job!

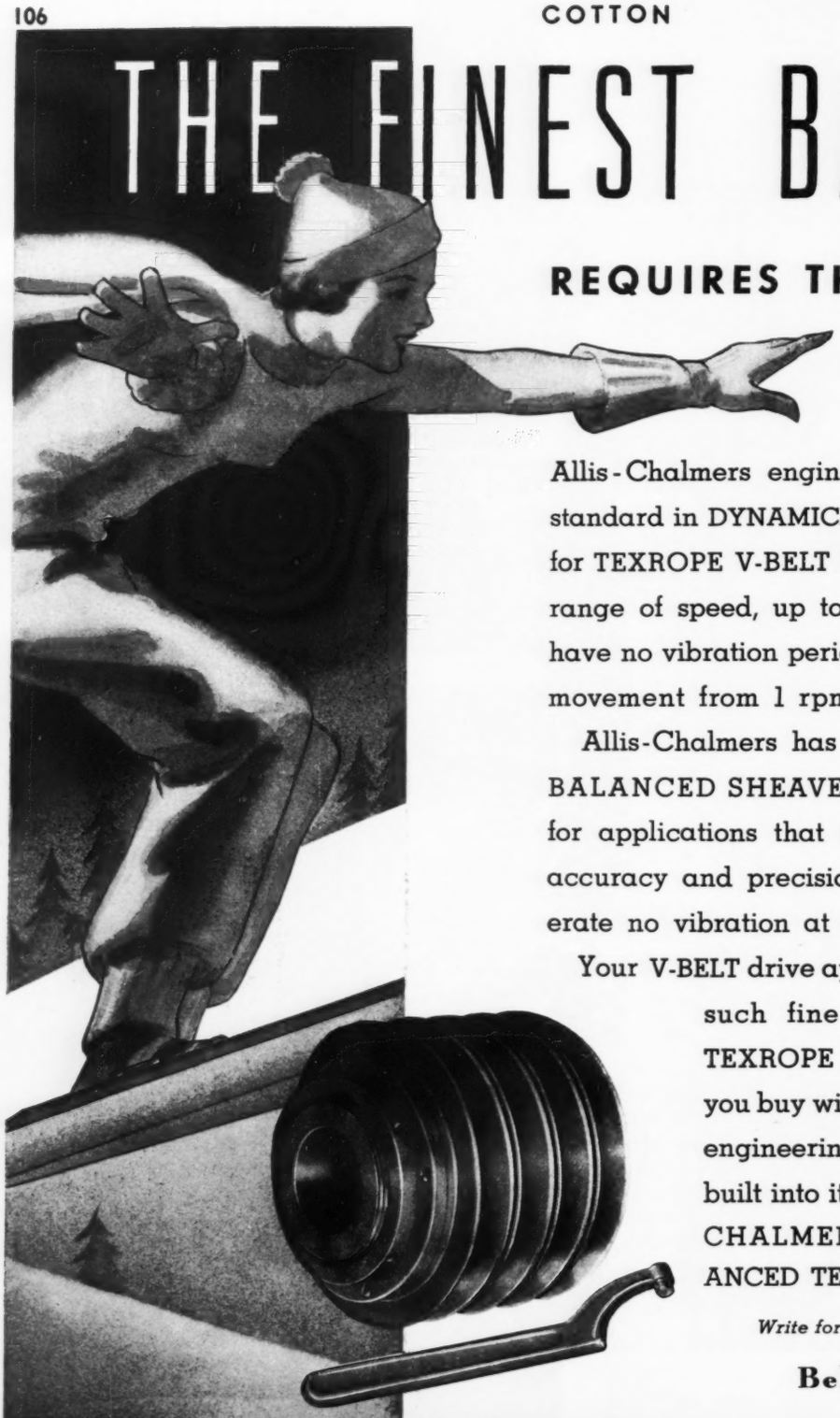
See the Sherwin-Williams Painting Engineer.

SHERWIN-WILLIAMS SAVE-LITE

THE PLANT CONDITIONING PAINT

THE FINEST BALANCE

REQUIRES THE FINEST ENGINEERING



Allis-Chalmers engineers now set a new high standard in DYNAMICALLY BALANCING Sheaves for TEXROPE V-BELT DRIVES. Over their entire range of speed, up to 6,000 rpm. these sheaves have no vibration period . . . they run like a watch movement from 1 rpm. right up to 6,000 rpm.

Allis-Chalmers has made the DYNAMICALLY BALANCED SHEAVE commercially available for applications that require the most extreme accuracy and precision, and can therefore tolerate no vibration at any time or at any speed.

Your V-BELT drive applications may not require such fine balance, but whatever TEXROPE V-BELT DRIVE equipment you buy will have the same caliber of engineering ability and experience built into it, that produced the ALLIS-CHALMERS DYNAMICALLY BALANCED TEXROPE SHEAVE.

Write for Vari-Pitch Bulletin No. 1261-A

Belts by Goodrich

743

ALLIS·CHALMERS

MILWAUKEE WISCONSIN

Du Pont Announces New Size for Rayon Yarns

E. I. Du Pont de Nemours & Company, Wilmington, Del., have announced a water-soluble synthetic product known as Rayon Size MW, designed especially for sizing viscose and acetate rayon warps and the filling yarns of crepe fabrics. This is a derivative of a synthetic resin, free of putrefactive nitrogenous substances, it is pointed out, being built up by chemical reactions from simple chemical compounds of definite melting points and boiling points, so that it is reproducible from batch to batch regardless of climate, geographical location of its point of production, etc.

The manufacturers explain that this new size is indefinitely stable, and sized yarns can be stored for long periods without the size becoming insoluble; the viscosity of solutions of the size is unaffected by continued heating and stirring. As with other sizes, it is pointed out, Rayon Size MW is best removed with the aid of fatty alcohol sulphate detergents to insure even dyeings.

The makers recommend the use of the size, for most purposes, without softeners of any kind; if, however, some particular application should require a softening agent, they recommend that hygroscopic softeners such as the polyhydric alcohols, glycerine, ethylene glycol, etc., be used.

In addition to warp sizing, the product is offered also for sizing the filling yarn for pile fabrics.

The size is effective at low concentrations, ordinarily a concentration of one per cent or under being recommended on viscose warps to protect the yarn during weaving. Higher concentrations should be used for acetate rayon yarns because of their lower pick-up of size solution, and as these vary in their pick-up, depending upon the finishing treatments they have received, it is necessary to adjust the concentration to meet the demands of particular yarns; concentrations of from 2 to 4 per cent are suggested. The size, it is pointed out, is also effective as a wetting agent without the addition of other penetrating assistants.

The material is also useful for sizing crepe yarns, resulting in deep pebble, it is explained. In order to obtain uniform, flat crepes it is necessary to make allowances for the ready solubility of this agent; concentrations of from 0.1 to 0.5 per cent are suggested for this purpose. The size can be used without softeners or with the polyhydric alcohol type softeners mentioned.

Rayon Size MW is available in the form of flakes which dissolve readily in hot water by the usual procedure in preparing size solutions; it is pointed out that its solutions have a tendency to foam, and so it should be applied at somewhat lower temperatures than are used for gelatin.

Self-Sealed Bearings Booklet

New Departure, a division of General Motors Corporation, with advertising department at Bristol, Conn., has made available a new 20-page booklet entitled *Sealed* which gives the principles involved in the company's sealed bearings and the need for this type of self-sealed bearing. Numerous case histories are cited and illustrated. In writing for the booklet, "Booklet D" should be requested.

Folder by Cleveland Tramrail

Cleveland Tramrail, a division of The Cleveland Crane & Engineering Company, Wickliffe, O., has distributed an illustrated folder showing planned material handling systems as devised by the company. Salient points brought out for the use of the system are an increase of storage capacity per total of ground area available, avoiding re-handling, elimination of losses due to damaged inventory, permits cleaner and more orderly plant, assists in producing a better product at a profit, and the system reduces the liability insurance.

New Principle in Water Softening

Creative Chemical Company, 4622 Friendship Ave., Pittsburgh, Pa., has developed a new chemical compound, Watertone, which is said to soften instantly and completely upon treatment water regardless of the mineral hardness. It is a liquid, soluble in water in all proportions, odorless, and of amber shade; however, no color is imparted to the treated water, according to the company. The softness of water is secured without the disassociation, separation or precipitation of the minerals. The treatment is mildly alkaline whereby acid contaminations of the water supply are neutralized and the treated water is kept slightly above neutral in the pH or hydrogen ion scale, eliminating the use of highly alkaline pH or soap building chemicals. A folder describing this chemical is available.

Lighting Catalog

Benjamin Electric Manufacturing Company, Des Plaines, Ill., has made available Catalog No. 26, which includes data on the latest improvements and lighting developments of the past 12 months. This 352-page, loose-leaf book, in addition to supplying complete commercial data on the company's line, thoroughly details a vast number of specifications, engineering recommendations, floor layout plans, etc.

Bulletins by Chain Belt Company

Chain Belt Company, Milwaukee, Wis., has announced the distribution of three bulletins descriptive of REX roller chain, REX griplock chain and REX z-metal chain. The bulletins carry installation views of REX chains and give corrosion tests of parts submerged and not under strain. The hidden shoulder factor is emphasized in one of the releases and shows that the working life of the chain is increased by its use. It is said that the REX roller chain drive is positive and is 98 per cent efficient. These drives may befully enclosed and can be applied on extremely short centers.

Flexrock Folders

Flexrock Company, 800 N. Delaware Ave., Philadelphia, Pa., has published two folders descriptive of its material. One of the folders describes an improved Flexrock which takes colors better, and the other folder brings out the salient points of Ruggedwear Resurfacer.

Rayon from Rice Husks in Japan

According to the *Science News Letter*, August 21, 1937, a $2,900,000 industry is being promoted in Tokyo, Japan, with the object of producing rayon-making pulp from rice husks, of which a practically unlimited supply is assured in Japan. The process that forms the basis of the new industry has been developed by the Tokyo Industrial Laboratory, a division of the Department of Commerce and Industry, in collaboration with the research institute of the South Manchuria Railway Company. Japan at present is among the world leaders in the production of rayon yarn. Also, Japan is the world's first rice growing country. The annual crop averages 475 million bushels. As one bushel of rice yields about 419 pounds of husk, the entire turnover of the rice crop in Japan should yield nearly four billion pounds of husk a year. At present the rice husks are thrown away as practically worthless.

Why does the overseer and superintendent get more pay than the sweeper? He does not do as much physical work. It is because he has more knowledge. Why does the bigger job pay more than the small one? Same answer. You say you want a bigger job? Well, what are you doing to get more knowledge?—OLD-TIMER.

News Items with a Textile Slant

Harvey Superintendent Houghton Oil Department

David Maitland Harvey has been appointed superintendent of the oil department of the Philadelphia plant of E. F. Houghton & Company, 240 W. Somerset St., Philadelphia, Pa. Production of sulphonated oils, quenching oils, extreme pressure lubricants, and oils for metal working, textile cordage, and fiber industries will be under his direction. Receiving his degree at Haverford College in 1914, Mr. Harvey has more than 20 years experience as superintendent of production for major oil and chemical manufacturers.

Waldron Sales Manager for NOPCO

H. J. Waldron, formerly associated with leading textile manufacturers in New England and southern states, has been appointed New England district sales manager of the National Oil Products Company, Harrison, N. J. Mr. Waldron was recently connected with E. F. Houghton & Company.

Davison Publishing Company Celebrates 40th Anniversary of Neaves with Company

The Davison Publishing Company, publishers of many directories, bluebooks, etc., celebrated the 40th anniversary of the continuous service of Frederick E. Neaves with the company on October 14 in the Dutch room of the Parkside Hotel, New York City. Mr. Neaves, as traveling executive of the company for many years, is known from coast to coast and numbers among his friends many in the textile industry. After a luncheon commemorating the occasion, Mr. Neaves was presented with a solid gold Tiffany open-face watch with chain, suitably engraved by Harold M. Davison, general manager of the company, who presided. At this time Rose Chapman Leddy was also honored for long period of service to the company.

Griffin Joins Pennsylvania Salt

Charles B. Griffin, Jr., formerly of the Marshall Field & Company's manufacturing division, Spray, N. C., has joined the technical service department of the Pennsylvania Salt Manufacturing Company, Philadelpia, Pa. He is a graduate of the N. C. State College. While with Marshall Field & Company, Mr. Griffin worked principally in the textile manufacturing division on water purification, bleaching and finishing. He was associated with R. A. Butler of the engineering department.

Lawson Withdraws from Hemphill Company; Succeeded by Hutton

Robert Lawson, formerly in charge of the engineering department, Hemphill Company, by mutual agreement has withdrawn from the company after 14 years; he was president of the company from 1933 to 1936. Alfred L. Hutton, Jr., vice-president, who has been with the company for over 20 years, has assumed direction of the engineering department.

Division Advertising Managers Appointed by Westinghouse

H. S. Schuler has been appointed division manager of industry advertising of the Westinghouse Electric & Manufacturing Company, East Pittsburgh, Pa. Formerly he was with the advertising agency of Ketchum, McLeod & Grove, Inc., where he was an account executive. Other division advertising managers recently appointed are T. H. Cable and J. H. Thompson.

Brooks of Fairbanks-Morse Passes

Percy C. Brooks, former executive vice-president of Fairbanks, Morse & Company, Chicago, Ill., passed away at his home in Chicago on October 15 following an illness of about a year. He was 65 years old. A graduate of Georgia School of Technology, Atlanta, Ga., Mr. Brooks came with the company in 1898 and began nearly 40 years of association with Fairbanks, Morse & Company.

Republic Distributors

Republic Steel Corporation, Cleveland, O., has announced five new distributors for its tubular products. They are Bomar Gross, Inc., Jamaica, N. Y.; Drake Supply Company, Los Angeles, Cal.; Iowa Machinery & Supply Company, Des Moines, Iowa; Wilkins Pipe & Supply Company, Peoria, Ill.; and Woodmanse Manufacturing Company, Freeport, Ill.

Dorman Manages American Appraisal Company in Southeast

C. W. Dorman, Washington, D. C., has been appointed manager of the southeastern territory of The American Appraisal Company, Milwaukee, Wis. The states included under his jurisdiction are Georgia, Tenneseee, South Carolina, Alabama, and Florida. Mr. Dorman is a veteran with the company and brings to the southeastern territory the benefit of many years of appraisal practice and experience.

Barbee of Link-Belt Passes

I. H. Barbee, manager of the Atlanta, Ga., plant of Link-Belt Company, passed away November 4 in Philadelphia, Pa., following an illness of several weeks. Mr. Barbee, who was 54 years old, had been with Link-Belt Company since 1921, and was given charge of the Atlanta office when the company first moved there in 1934. He was a graduate of Purdue University. Interment was at Ripley, Tenn.

Westboyd Chemical Occupies New Plant

Westboyd Chemical Company, Chicago, Ill., is now located in its new plant at 1301-12 W. 31st St., Chicago. This move was made in order to secure greater facilities to render improved service to its customers.

Representative Announced

Northern Equipment Company, Erie, Pa., has announced the appointment of Cochrane Steam Specialty Company, 80 Federal St., Boston, Mass., as New England representative for the sales and service of Copes feed water regualtors, differential valves, pump governors, reducing valves, de-superheaters, and allied equipment.

Dust Tight Capacitors

Westinghouse Electric and Manufacturing Company, East Pittsburgh, Pa., has announced a new line of dust tight capacitors for use in mills and plants with dust laden atmospheres; the live parts are said to be protected from an accumulation of foreign materials. The dust tight terminal enclosure is designed to mount on the capacitor unit sealing on a gasket of felt. A felt gasket is also used under the cover which is held down by spring latches. The terminal enclosure contains boric acid fuses and discharge resistors. Two types of mounting supports are available, one for mounting in an angle iron rack structure, and the other for mounting the unit on the floor.

"Aqua and Anhydrous Ammonia"

Pennsylvania Salt Manufacturing Company, 1000 Widener Building, Philadelphia, Pa., has made available useful information in booklet form pertaining to and entitled *Aqua and Anhydrous Ammonia*. It gives the characteristics of liquid anhydrous ammonia, the physical properties, its uses, etc. A section is devoted to aqua ammonia giving the same facts about this form of ammonia.

Study of Trends of Textile Production and Distribution

The study of production and distribution organization in the textile industries which the Industrial Research Department of the University of Pennsylvania is making under the sponsorship of the Textile Foundation and with the advice and assistance of representative trade groups, is nearing completion.

Field work on the study is already virtually completed and the preparations of manuscript has been under way for some time. In the course of the field work about 500 interviews have been held with executives in the textile industries and in related industries and trades. Among those interviewed have been yarn producers, weavers, knitters, dyers, finishers, converters, cutters, wholesalers, and retailers.

The Industrial Research Department has been materially assisted in the study by a fine spirit of co-operation on the part of the executives interviewed. All have displayed interest in the study and have been ready to discuss the organization experience of their companies in detail, usually on the understanding that the identity of their company would not be revealed.

The first two chapters of the report are being designed as a "'front window" to acquaint the reader with what the report is all about. They will show the character of the business organization problem in textiles and summarize the findings of the study in a fashion that is hoped will catch reader interest. In succeeding chapters more detailed treatment is given to specific problems of production and distribution organization at each of the principal market steps. While every effort is being made to provide a comprehensive appraisal of actual experiences, every effort is also being made to provide an interesting and readable report.

One of your troubles that looks large as a mountain to *you*, only looks like a little hill to other people. In fact, they cannot see why you let it worry you at all.

You, overseer or superintendent, you are some boss, I suppose. Well, when you learn how to boss *yourself*, and not until then, are you qualified to be classed as a boss. The biggest job any man ever did was to learn to boss himself. Tell yourself to do the things you would tell the other fellow who is looking for advancement, then make yourself do it, and you will be going some.

Most any fairly intelligent overseer or superintendent can tell the young fellow what he should do to make a success, but how many of them will tell themselves to do those very same things and then do them?—OLD-TIMER.

Acceptance .. BY CUSTOMERS

To gain a customer's approval is the goal of every manufacturer. During the past 50 years HINDE & DAUCH has played an important part in securing customer acceptance for thousands of manufacturers . . . by supplying shipping boxes that protect, advertise, and merchandise their contents. H & D shipping boxes look modern, *are* modern . . . yet they cost no more.

HINDE & DAUCH Corrugated Shipping Boxes

H&D Protects IN TRANSIT!

THE HINDE & DAUCH PAPER COMPANY
454 DECATUR ST., SANDUSKY, OHIO
Send me your FREE book, "Modern Shipping Boxes"
Name_____
Company_____
Address_____
City_____ State_____

PERSONAL NOTES
about Men You Know

WYLLYS H. TAYLOR, who recently resigned as general manager of Slater Mfg. Co., Slater, S. C., has been appointed general manager of the Appleton Company, Anderson, S. C.

J. FLOYD CHILDS has resigned as overseer of weaving at the Lanett Mill of West Point Manufacturing Company, Lanett, Ala., to become associated in a sales capacity with the Atlanta office of Howard Brothers Manufacturing Company, of which GUY L. MELCHOR is manager. B. E. WILLINGHAM has been promoted from assistant overseer to succeed Mr. Childs, and T. J. HENSON, formerly second hand, has been made assistant overseer succeeding Mr. Willingham.

E. MARTIN PHILIPPI has been elected president of American Thread Company, New York City, succeeding R. C. KERR, who has resigned after 20 years of service. Mr. Philippi is also serving as a director of the Thread Institute and is a member of the executive committee of the Cotton Textile Institute.

J. FRANK MORRISSEY has become treasurer of the Interlaken Mills, Arkwright, R. I., succeeding HARRIS H. BUCKLIN, who has been with the company for 30 years, and who remains as vice-president and a member of the board of directors. He served as treasurer for seven years.

W. A. BROADFOOT, for a number of years general manager of The Aspinook Company, Jewett City, Conn., has become president of Palmetto Print Works, Greenville, S. C., succeeding PHILIP A. JOHNSON.

CHARLES H. DIMICK has been elected president of Textile Dyeing & Printing Company of America, with the principal plant at Fair Lawn, N. J. Mr. Dimick will also continue with the general management of the company, to which position he was appointed last June.

P. WARREN, formerly of Covington, Va., has become superintendent of Cascade Rayon Mills, Mooresville, N. C., succeeding D. A. STANCELL, who is now superintendent of the Greer and Victor Plants of Victor-Monaghan Company, Greer, S. C., and who succeeded FRED L. STILL, resigned.

E. J. MCMILLAN, president, Standard Knitting Mills and Cherokee Spinning Company, Knoxville, Tenn., has been elected president of the Tennessee Manufacturers' Association, succeeding JOHN E. EDGERTON, Lebanon, Tenn.

THOMAS TIMMINS, who for 20 years was associated with Wellington, Sears Company, and who was more recently with W. J. Lyons Company, has joined the fine and fancy goods department of Southeastern Cottons, Inc.

CHARLES H. HUGGINS, JR., has been made an assistant department head in the wash goods division of Pacific Mills. He will assist in the development and sale of rayon fabrics.

W. C. COX, formerly overseer of carding at the Toxaway Plant of Gosset Mills, Anderson, S. C., is now general overseer of carding at the Ninety-Six (S. C.) Cotton Mill.

B. F. PENNINGTON, formerly overseer of weaving at Hillside Plant, Callaway Mills, LaGrange, Ga., has become overseer of weaving at Enterprise Manufacturing Company, Augusta, Ga.

L. L. JONES has been elected president and treasurer of the Canton (Ga.) Cotton Mills, succeeding his father, the late R. T. JONES, who founded the business. C. K. COBB was elected general superintendent and secretary.

J. E. CARTER is now overseer of carding, spinning, twisting, and weaving at the Selma Manufacturing Company, Montgomery, Ala. Formerly he was overseer of spinning at the Alabama Cotton Mills, Speigner, Ala.

H. C. SKELTON, formerly cost accountant at the three Chester S. C., plants of Springs Cotton Mills, has been made superintendent of the carding and spinning departments at the Gayle plant, succeeding L. W. GREEN, who is now superintendent of the spinning department of the Highland Park Manufacturing Company, Plant No. 3, Charlotte, N. C. J. W. TRIGG, Selma, Ala., is now superintendent of weaving at the Gayle Plant, succeeding R. A. LITTLEJOHN, now with the Opelika now with the Opelika (Ala.) Mills in a similar capacity.

N. W. MITCHELL of Barnes Textile Associates, has left for Sweden, where he will do engineering work in textile mills of that country.

HAROLD C. BARNEY, formerly assistant resident-manager of the Sterling (Conn.) branch of the U. S. Finishing Company, has been made resident-manager of the Hartsville (S. C.) Dye Works, a subsidiary of the finishing company.

LEWIS L. BOWEN has been promoted to assistant superintendent of the Roanoke (Va.) Weaving Mill. He is a graduate of Clemson College.

Obituary

HOWARD E. COFFIN, 64, chairman of the board of directors of Southeastern Cottons, Inc., one of the outstanding figures in American industry, passed away at Sea Island Beach, Ga., November 21. Mr. Coffin entered the textile industry several years ago after being a leading figure in both the automotive and aeronautical fields. He became interested in the country around Sea Island, Ga., and was a leader in the development of this region as a resort. He became chairman of the board of Southeastern Cottons, Inc., shortly upon entering the textile field, which position he held until his death.

WILLIAM V. HENRY, 52, for 16 years associated with the Anchor Duck Mills, Rome, Ga., passed away the latter part of October.

THOMAS H. BARDEN, manager and treasurer of the Amherst (Mass.) Manufacturing Company since 1910, passed away at the age of 80.

W. T. LANE, senior partner of W. T. Lane & Brothers, Poughkeepsie, N. Y., passed away on October 25. He had founded the business 43 years ago. His interest in the business has been taken over by his son, DAVID R. LANE, who for 17 years has been actively associated with the company.

THOMAS H. BARDEN, manager and both Goldens' Foundry & Machine Company and Lummus Cotton Gin Company, Columbus, Ga., passed away October 8.

ROBERT L. EDMOND, sales manager of Goldens' Foundry & Machine Company, Columbus, Ga., succumbed October 15 to injuries received in an automobile accident.

PAUL A. BOLT, 59, overseer of carding at the Whitmire (S. C.) Cotton Mills, passed away suddenly of a heart attack.

JOHN PHILIP OTT, 43, who had been with the Martel Mills for a number of years, passed away at his home in Charlotte, N. C., October 25.

AN INVITATION TO MILLS USING THE BARBER-COLMAN SYSTEM OF SPOOLING AND WARPING

Carefully compiled figures based on our invoices to Mills operating Barber-Colman Spoolers and Warpers prove that the cost of maintaining these machines is extremely low. Figures on your own machines will verify this fact.

"New time always! Old time we cannot keep. Time does not become sacred to us until we have lived it, until it has passed over us and taken with it a part of ourselves."—JOHN BURROUGHS.

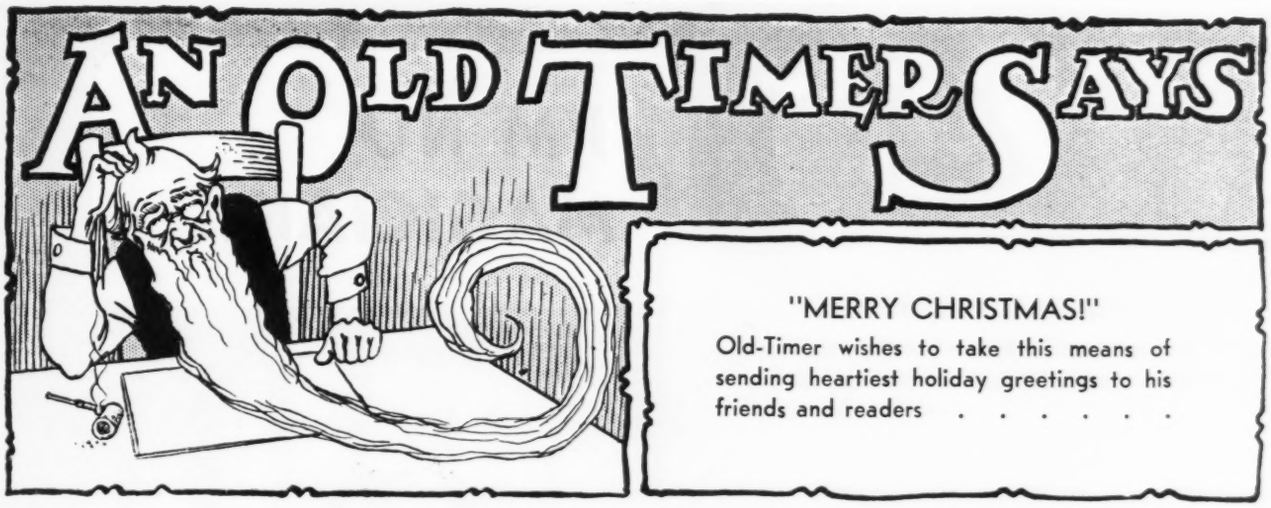
A FEW more turns around the clock and another year will join the other 38 that form the background of our business experience.

Guided by the lessons learned in 39 years of service to the textile industry, SONOCO faces the new year —and the future, aggressively pursuing further scientific development of products that will keep abreast of textile needs.

SONOCO PRODUCTS COMPANY

BRANTFORD ONT. HARTSVILLE S. C. MYSTIC CONN.

DEPENDABLE SOURCE OF SUPPLY


AN OLD TIMER SAYS
"MERRY CHRISTMAS!"
Old-Timer wishes to take this means of sending heartiest holiday greetings to his friends and readers . . . . . .

"Old-Timer" Wants Some Information and Is Willing to Pay for It

(At Old-Timer's request, we are interrupting, with this special article, the serial discussion on "The Pleasure of Running a Section", which started in the November issue. Give heed to his present request, and we will resume the serial talk with Jim in the January issue—unless Old-Timer interrupts us again.—The Editors.)

THIS WINTER, OLD-TIMER made a trip into New York State and on through New Jersey, Connecticut, Rhode Island and Massachusetts. On this trip he called on some of the firms and individuals who advertise in this magazine you are reading.

Of course OLD-TIMER is not an advertising man because he has spent practically all of his business life trying to manufacture cloth and yarns in textile plants. However, he has always been very much interested in advertising. One of the main reasons for this interest is that he read an advertisement during the first year when he was an overseer which gave him some information about a machine that he had charge of in his department, and as soon as he read the advertisement he realized that this machine was not only being operated in the wrong speed but that it was not giving the results that it was supposed to give. When he made the changes to the machine, the superintendent noticed the difference and said some pretty nice things to OLD-TIMER for his knowing how to get maximum results from his machinery, etc.

That one incident, happening almost at the beginning of his career as an overseer, made a firm believer in advertising out of OLD-TIMER.

Had you ever stopped to think how much you learn from reading the advertisements about machines, belts, motors and all other things that you as an overseer or superintendent are either directly or indirectly responsible for purchasing and using?

Why do you say you prefer such a motor or machine or belt or supply of any kind, when your plant has never purchased that particular machine or supply before?

Of course you know that the aim of all the editorial matter in COTTON is to give information, instruction and advice concerning the operation of your machinery and all other information it can possibly get from the most authoritative sources regardless of expense—all for the sole purpose of holding your interest in the magazine and the advertisements it contains. That is why the editor or someone from his department will sometimes make a trip lasting several days and costing probably several hundred dollars to find out why and how some superintendent or overseer or master mechanic or engineer can operate a certain machine better than the average man is operating it—then that information is passed on to you in a short article, sometimes not a column long.

That is not just information; it is *education*. It is education comparable to that which you would get in a textile school or in a testing laboratory from the experts who build the machines you use, for the firms which manufacture your belting, your shuttles, your reeds, your harnesses or heddles, your pickers, your strapping and all of the other things you have to have in order to operate your mill efficiently. If you were not getting this education through the advertisements and editorial pages you would probably not be getting the full benefit of the dollar your firm puts out for these things, just like OLD-TIMER'S firm was not getting what it had paid for out of that machine until he learned how to get the highest efficiency out of it by reading an advertisement about that particular machine.

In talking to advertising agencies, OLD-TIMER got the impression that many of them do not realize how much information you and I as overseers and superintendents get out of studying the advertisements, and

...but I CAN LACE SPINDLE TAPE 10 TIMES FASTER THAN IT CAN BE STITCHED," says Colonel Clipper

THERE'S nothing mysterious about the Colonel's methods. He follows the Clipper principle universally used for 30 years in lacing leather belts—but employs the Clipper No. 25 Lacers and Hooks especially developed for spindle and condenser tape. By keeping a stock of CLIPPER-LACED tapes on hand the spinning frame is shut down only long enough to place the new tape on the pulleys and join the ends with the connecting pin. Used by many leading mills. Recommended by spinning-frame manufacturers. Trial installations arranged through authorized Clipper jobbers. Write for information.

CLIPPER BELT LACER COMPANY
Grand Rapids, Mich., U. S. A.

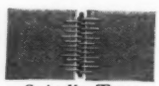
Condenser Tape

Advantages of Clipper Lacing—

Tapes installed in a fraction of the time required for endless tapes.

Tape may be purchased in roll at considerable saving, and cut to length.

Smooth, flexible, true-running joint.



Spindle Tape

Advantages of Clipper lacing—

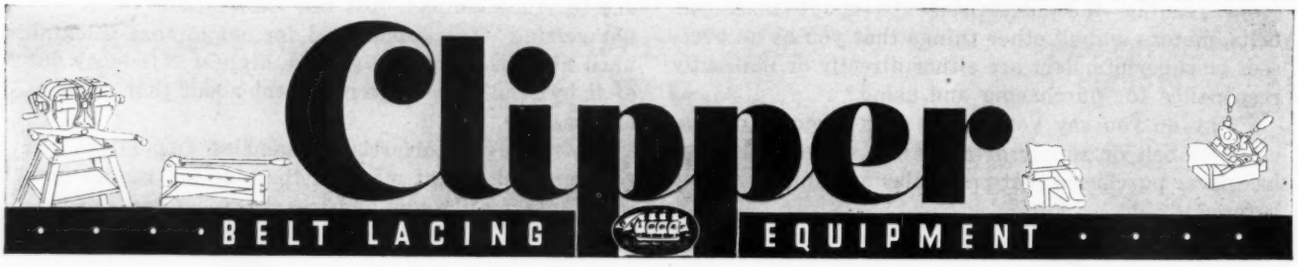
10 times faster than stitching.

Permits keeping stock of laced tapes on hand.

Tapes last much longer.

Vibration is eliminated, tapes run both smoother and truer.

COPYRIGHT 1937, CLIPPER BELT LACER COMPANY



he also realizes that many overseers and superintendents have not stopped to think how much information they themselves get out of reading the advertisements, and that is why I am asking you to write me in your own words just how you feel about it. And for your co-operation and for the personal information your letters will be to me, I am going to compensate you for giving me that information.

Please understand that OLD-TIMER is doing this of his own personal accord—neither the editor nor the advertising manager nor anyone connected with COTTON has either requested or suggested that I ask you to write me these letters, and neither is COTTON furnishing the money to pay you or reimburse me for paying you for your trouble. OLD-TIMER is doing this for his personal information and is paying you with his own money and if you do not care for the subscription he is going to offer you he will send you the cash instead.

Of course he wishes he could afford to pay each one of you who writes a letter but that would probably run into more money than he could afford to put out; however, for the best 10 letters (not just a first prize, but 10 of them), he will send you a 5-year subscription to COTTON or if you don't want the subscription and your letter is one of the best, he will send you the cash. Oh, you say, there is the catch: If I ask for the cash my letter will not be one of the best—well, fellows, all I can say to such a remark is that after all the years you have been reading OLD-TIMER, if you believe he is such a darn cheapskate as that, I don't believe you should write one of the letters.

Your name will not be disclosed in case he wishes to use the wording of your letter for any purpose. Naturally, if you write me a good letter I will be proud of it and I want to show it to some people and say, "I told you so", we have got the highest class of men in charge of textile mills that there is in any kind of manufacturing business in the world. But I will not use your name or tell what mill you are connected with unless you give me permission to do so.

Now to sum up: Read the first part of this article again to give you some idea as to the information OLD-TIMER wants. Not necessarily that you have a certain experience by reading some advertisement like experience he has told you about, but he wants to know if you realize what an educational feature advertisements really are. You see, fellows, some advertisers have no way of finding out whether they are getting any results from the money they spend to tell you about their products; they never come into personal contact with the men who operate their machines or use their products; they don't even know what kind of guys we are, so the next time OLD-TIMER makes a trip up there to see them, he wants to be able to back up some of the things he has been telling those men about the overseers and superintendents of textile mills.

Say, why in heck do you read COTTON anyway? What good has it ever done you—how many textile magazines do you take—you need not tell me the names of them, but I am interested in knowing about what you are doing. Tell us *why* you like best the magazine that is your choice. Are the advertisements in that magazine any more attractively displayed than in others? You know it's this advertising problem that OLD-TIMER is asking you to give him the dope on.

Please address your letter to:

OLD-TIMER, 1020 Grant Building, Atlanta, Ga.

If You Were the Boss?

WHAT would you do if you were boss? It is an easy matter for people to criticize those upon whom the greater responsibilities are placed, but it is rather difficult for them to tell what they would do if those responsibilities were theirs. Individuals who have some particular ax to grind about some specific attitude or policy will always feel they could improve that feature of the boss' job. They might be able to do so; but the question is, could they measure up in all capacities? Then, too, it should be remembered that the boss' actions are frequently controlled by conditions beyond his control.

No person, regardless of the importance of his position, is free to govern and regulate according to the dictates of his own heart or mind. In fact the higher a man rises in the affairs of the world, the less freedom he enjoys. Employers, or bosses as they are generally known, are assuredly not as free to follow their own individual ideas as are the employees who work for them. The full burden of legal, employee and employer responsibilities practically enslave the man who has to shoulder them all. As a general thing the laws of the nation are far more dictatorial to individuals with executive responsibilities than to people without them. Those to whom the bosses are responsible are more demanding of them than they are of their employees. The greater privileges enjoyed by the higher ups are more than offset by far greater job responsibilities and individual restrictions.

It is much harder to be a competent boss than to be a competent employee. The higher a man rises the more difficult his job becomes; the more problems he encounters and greater are the hazards he faces. Administrative problems outweigh administrative advantages.

A man may earn a salary which permits him to own a fine house and a most luxurious bed but if his problems are such that he lies awake all night trying to solve them, he is not as well off as the man who earns a small wage but who can go to his home, be it as humble as it may, and enjoy the comforts of true relaxation.

It is the duty of every boss to understand and be sympathetic to the ideas and problems of his employees; and on the other hand there is a crying need for a more sympathetic understanding on the part of employees as to the problems and worries of the bosses.

—*The Textorian.*

ALL STEEL
ECONOMY BALING PRESSES
ALL SIZES FOR ALL PURPOSES
LARGEST LINE BUILT IN U.S.A.
ECONOMY BALER CO., DEPT. C ANN ARBOR, MICH., U.S.A.
REPRESENTATIVES:
New York Office: 100 Gold St.
Philadelphia Office: Drexel Bldg.
Terrell Machine Co., 1200 No. Church St., Charlotte, N. C.
Boston Office: 601 Atlantic Ave.
Economy Baler Co., Box 653, Atlanta, Ga.

CLINTON STARCHES
FOR ALL TEXTILE PURPOSES
Manufactured by
CLINTON COMPANY
CLINTON, IOWA
QUALITY SERVICE

UNIVERSAL
STANDARD RING TRAVELERS
BEST MEET THE SPECIFIC REQUIREMENTS FOR SPINNING AND TWISTING

THE BOWEN PATENTED BEVEL EDGE TRAVELER
VERTICAL OFFSET TRAVELER
FOR
EVEN SPINNING AND TWISTING
VERTICAL NE-BOW TRAVELER
FOR
SILK, RAYON AND FINE WORSTED YARNS. A TRAVELER THAT WILL NOT UNTHREAD. ESPECIALLY DESIGNED FOR LUBRICATING RINGS.

Write For Samples and Particulars

U. S. RING TRAVELER COMPANY
PROVIDENCE, R. I. GREENVILLE, S. C.
AMOS M. BOWEN
Pres. and Treas.
Southern Sales Representatives
Wm. P. Vaughan, Greenville, S. C.
Oliver B. Land, Athens, Georgia
Torrence L. Maynard, Belmont, N. C.
"A TRAVELER FOR EVERY FIBRE"

THEY "TAKE IT" FOR TEN YEARS WITHOUT SIGNS OF WEAR . . . .

Moccasin Bushings are notably long lived — many users have reported service as long as ten years without a sign of wear.

Remember that 75% of all bushing failure is due to insufficient or improper lubrication. The secret of Moccasin's superiority and long-lasting efficiency is the patented self-oiling feature, an exclusive feature. They need oiling only three or four times a year, reducing dangerous hand-oiling in close places to a minimum. Dripping and throwing of oil to ruin yarn, cloth, belting and flooring is entirely eliminated.

Moccasin Bushings are now standard on so many modern textile machines. Why not modernize all of your machines with Moccasin?

MOCCASIN BUSHING CO.
Chattanooga Tennessee
Makers of Brass and Bronze Castings of Every Description

HOW OTHER MEN MANAGE

Practical Discussions by Cotton's Readers On all Varieties of Mill Subjects

WE invite our readers to make use of this department for the discussion of any and all problems arising in the mill or finishing plant. Questions, answers or letters need not conform to any particular style and will be properly edited before publishing. The editors do not hold themselves responsible for any statement of opinion or fact which may appear in this department unless so endorsed. This department is open to all.

Four Questions on Yarn Manufacturing Methods

Here is an excellent opportunity to help a fellow out, and at the same time, organize your thoughts

EDITOR COTTON:

We are running 15/16-inch to 1-inch Strict Low Middling or less cotton, making yarns from 7s to 45s, and we shall appreciate some information from your readers pertaining to the following questions:

1. (a) Once a day we size four bobbins of yarn, say 20s, from a different spinning frame, also testing them for breaking strength. These bobbins are taken from different parts of the spinning frame. On these four bobbins, what is the percentage of variation from the standard that is still considered good running spinning? Will this percentage of allowable variation change with the number being run? In other words, if four bobbins are taken from a frame of 40s yarn and it sizes 39s-39s-41s-41s, this would be a variation of 5 per cent. If the same percentage were applied to 10s yarn, we would be permitted to run 9.75s-9.75s-10.25s-10.25s. To make this question somewhat clearer, are we permitted to run 9s-9s-11s-11s and still call this good running?

(b) How frequently should yarn numbers be checked per day or per week, and how many frames should samples be taken from on a given yarn number? Should this schedule vary with the counts of yarn?

2. (a) How often should finisher drawing sliver be weighed? What is the individual allowable percentage of variation from delivery to delivery?

(b) We have a standard yarn folding board on which we place one yard of sliver from each delivery on a frame. We weigh the four ends of sliver and the average is used as the sliver weight; is this procedure correct or should we weigh each end individually and use these values?

3. What is the best way to obtain the most even results from the breaker and finisher drawing? In our plant we creel three cans per delivery at a time in order to compensate for the variation which might arise if a certain group of cans should come from the cards which have been stripped recently. Is there any better way of creeling breaker drawing than this? With regard to the finisher drawing, is it better to creel the six cans from the same delivery of breaker drawing or is it better to mix these?

4. (a) Is it better to set aside picker laps that are above or below the standard weight and try to compensate these by setting aside different groups of cards having different drafts to try to bring them all to the same result and sliver number?

(b) What do you consider to be the heaviest weight of sliver practical to be run on a card? Would an extremely heavy sliver be likely to cause uneven work in the drawing? Also, what is the best draft to run on the drawing?

(c) Which is considered to be the better practice, a high doffer speed and a lightweight sliver, or a low doffer speed and a heavier sliver? In general, which would give the better results?

CONTRIBUTOR NO. 6740

Smoke from Belts May Cause Sooty Yarn

EDITOR COTTON:

This is in reply to "CONTRIBUTOR NO. 6657" who asks the causes of sooty yarn on page 127 of the June, 1937, issue of COTTON:

I believe that the accumulation of lint around the spindles becomes oily and the breeze created by the cylinder and the bands blows some of this oily waste into the yarn, making it look sooty. If this accumulated waste or lint is removed then this would not occur.

When a belt is not re-laced properly it will begin to smoke and this smoke gets into the yarn making it sooty. This could be overcome by having the belt man or fixer do his work properly in the first place.

I have seen the time when spinning frames are being driven from below, the smoke from the belts in the card room comes up through the holes and causes the yarn to be sooty.

There are other causes, but these may be a help to the contributor.

CONTRIBUTOR NO. 6715

Two previous discussions of this question appeared on page 103 of the August 1937 issue of COTTON.

Yards on Loom Beam

EDITOR COTTON:

I shall greatly appreciate answers from mill men concerning the number of yards of yarn it is practical to put on loom beams having different size barrels and different size heads. This is for 30s warp yarn; the constructions being run are 64x60 and 68x72.

CONTRIBUTOR NO. 6736

(In answering this question for "CONTRIBUTOR NO. 6736", please state in each case the diameter of the beam head and beam barrel, number of yarn, number of ends in warp, construction of cloth, as well as yards of yarn on the beam. —THE EDITORS.)

Card Room Comments

Opening a number of bales at a time, stripping cards, strings at the speeders, cork and metallic top rolls, and break drafts are discussed here . . .

EDITOR COTTON:

"K. C. (CONN.)" brings to the "HOW OTHER MEN MANAGE" pages in the December, 1936, issue of COTTON a very interesting topic in the drawing frame bad work and the eternal vigilance for the correction and elimination of these evils.

He is absolutely right when he condemns the idea of opening just a very few bales of cotton, and then feeding this cotton into the openers without its having an opportunity to open and condition some. Of course we all know that compressed cotton is harder to open up before being run than the standard packed flat bales. The compressing plants will press out much more water than the gin presses. Moisture content tests made of the two type bales will show the compressed bales to contain less moisture than the standard flat packed bale. Some tests that I watched through showed the standard bales 8.31 per cent, and the compressed bales 7.38 per cent. The samples were taken from the center of the bales at the time they were opened.

A good method in my opinion for opening cotton is the running shift to open the cotton for the next shift, thus allowing the cotton to stand for at least 8 hours. We open 50 bales on each shift, all compressed cotton, and have feeders, vertical openers with apron deliveries, and three beaters in our pickers and get good cleaning. Our opening room floor is large enough to put these 100 bales on, and the feeder man gets around them readily.

Personally, I never could approve of the 6 to 10 bale mixing, as the blending isn't extensive or thorough, still where your mill is set up on a large number of styles, staples and grades of goods, these small mixings cannot be so easily avoided. Conditions of this type and floor space control the method of cotton opening and mixings to a great extent.

A suggestion that I think will be helpful in opening cotton, and preventing fires and damaged machinery is that the ties and buckles should never be carried into the opening room. This can be done with compressed bales very easily, but not with the standard packed bale. However, all but three of the ties can be removed in the warehouse on these standard bales, and thus reduce the probability of these short pieces of ties and buckles getting into the hoppers of the feeders. All the ties can be removed from compressed bales, and the cotton remain intact within the bagging, which can be removed when the bales are dumped onto the floor of the opening room. This prevention may seem a bit slow to begin, but the cost of one fire and the repairing of one or more spike or lattice apron will more than offset the small amount of extra time that is required in this operation.

Evenness is one of the major points of quality in yarn manufacture, as well as cloth, and only proper processing and cleanliness compares with it. We need our pickers to run at a speed that will allow the beaters to do their work, and the eveners to move readily without letting too many yards of lap pass through without making a change in the position of the evener belt when variations are prevalent in the feeding of the cotton into the evener section of the picker.

Also the flow of the cotton into the hoppers of the pickers must be kept at an even stage in order for the spike apron to pick up a regular amount of cotton to be fed into the breaker beater feed rolls, to have a full hopper and feeding heavily, and then a hopper almost empty and then feed lightly is only consistent with an uneven lap as a result. Such cases as this often exist with the self feeding distributor control, and the amount of cotton varying that comes into the condenser pipe. The last picker on the distributor usually gets the brunt of this condition, and by watching laps from this picker will reveal the defects of thick and thin laps. And the common sense answer, there will be that unevenness in the finished goods.

True it is that a picker is a bulky beast of a machine, and the majority of them are overworked by almost every mill, as they want them to overdo their capacity for good work, and force the cotton through too. I have seen finisher pickers delivering over 500 pounds of finished laps per hour on one-inch middling cotton, and have heard of even higher production being forced or pushed through pickers. Though I think that 275 to 300 pounds per hour with a 3 blade Kirschner beater speed of some 900 to 1000 r.p.m. is about right for best results in evenness of well cleaned laps. However the weight of the yard controls the amount of production to a great extent, and some good mill men even advocate slower speeds and lower production than this mentioned.

Evenness can also be aided materially at the cards by the careful piecing of the laps into them, and then by watching the sliver and removing thin places when made by these piecings, however, the inexperienced card tender will make more thick places in card sliver than thin ones in this operation. When cards are stripped, the end should be allowed to run long enough to get back to its full weight before being started back into operation. Those using vacuum strippers many times never cut out the end, but run the sliver into a waste can, and in this way make more waste, still the laps will run out more evenly.

On controlled draft drawing, that is with the sliver

lap winder and one process of drawing there isn't as much of a chance for an end to run through and be of light weight as there is with the two and three process drawing. Of course when these laps winders are run at high speeds the electric knock-off motions will not stop the machine as quickly as with the slower speeds. However there is enough positiveness to allow the tender to make the end meet on the table closely enough to prevent the lightness of sliver as "K. C." mentioned.

By magazining the creels, that is by leaving the tails hanging out of the sliver can at the cards, and piecing them at the lap winder before they run out it is possible to obtain some 85 per cent to 90 per cent efficiency on the lap winders which will allow for the consuming of more card sliver than some would think possible.

About the strings coming through some speeders, and on some they do not, it is as "K. C." says that there is evidently a lot of cotton that the cotton buyer or stapler let get by as being full staple, and in these bales there is considerable staple that is longer than the mill is organized and set up for, and the result is hard ends or strings. There are instances where strings or hard ends are caused occasionally by the roving being allowed to pass or run out from the end of the flutes of the steel roll for a few inches and then when the roving traverse reverses its motion the roving does not get back between the top and bottom roll. This is usually the result of a loose trumpet or one that has been knocked out of line. Sometimes these ends will show up and will not be detected until quite a little of hard roving has run onto the bobbin with no draft between the middle and front roll.

Now returning to drawing and its unevenness, and some of the experiences we have undergone, I remember of one case especially that I was most impressed with was that we had two frames that did not deliver the same weight sliver as the other 22 that we had been comparing them with. Using the same crown and draft gears, and the metallic rolls with the same effective diameter, but getting different results was puzzling to us, so we compared all the roll gears, and they were the same, and finally we found the tension gear was one tooth different from the other frames, and by changing these we found that our positive variation had been overcome at this point. Of course there is some variation on all the drawing and averages are considered when sizing is done at the drawing frames.

Some good authorities advise the changing of draft gears on each frame (drawing) that the sizing is out of tolerance, and claim that the result will be more even work, and many follow this practice. Others advocate the striking an average of all the frames, and when out of tolerance, change gears on all the drawing, telling us that if the picker laps are right, and the humidity under good control on the cards and drawing, that all the machines should be run alike. I would like to see someone discuss this subject thoroughly in some future issues of COTTON.

Often times the breaking strength of the yarn is impaired by the bad or improper tensions held on the drawing frames and the subsequent roving processes, and then this can be traced back to that cotton mixing again by the small number of bales being opened and the strength of the lot being low.

On drawing the ends look better, or at least have a better appearance when they are running tight, and they do not come down as much, but when the break is desired, the less taut end gives the highest break factor, and then the cork top roll has shown the most desirable result over the metallic top roll in my experience, even though the cork rolls require the most attention and care in their operation.

The breaking strength is also equally as important on the part of the operation of the roving frames, as, when the ends are too tight the roving is stretched, and when too loose there will be gouts in the roving on the bobbin, and the ends will be slung out of the flyers. Speed in many instances is an evil when high breaks are wanted from cotton that isn't of the longer staples than are ordinarily required for certain classes of goods.

Removal of twist and less tension can be made effective on slow speeds that cannot be made effective on higher speeds, and too keeping the same front roll speeds at reduced spindle speeds is possible in many cases. Some think that reduced spindle speeds aren't progressive, but when evenness and breaking strengths are concerned and demanded it is often the only means that is practical that will give the satisfactory effect.

Speaking of hard ends again, someone mentioned some time ago that certain crops of cotton were possessive of better running qualities and strengths. This is indeed true, and once in my experience when changing from one year's crop to another the hard ends began to show up on the intermediates and speeders; I removed two teeth of twist on each of the slubbers and intermediates, and tried to correct this trouble, but this helped but little, so I resorted to the opening of the front and middle, and middle and back rolls by 1/16-inch, and this reduced our hard ends materially. The old crop of cotton had passed out of the picture, and the new came in almost over night, and then we had the sudden evil to appear. The breaking strength also increased with the new cotton too.

Break drafts are sometimes the cause of unevenness, as throwing almost all the drafting on the two front rolls isn't consistent because to remove the twist and then attenuate the body of fibers at one draft throws too much to be done at one operation.

A case of this I knew of, on long draft spinning, break draft 1.04 and the unevenness so great that the mill lost all of its knitting yarn trade, and then by changing to 1.20 it gained all of it back, and other business as well. Hard ends are not as frequent on roving frames where the break draft is around 1.20 as with the shorter break drafts. I saw a case of 1.04 break draft on intermediates and then changing to 1.208 and the hard ends were practically eliminated. These tests were made on frames facing each other, same make, same hank roving, ball bearing top rolls, total draft 4.35. So this is convincing.

This is also a subject that I would like to see dis-

FROM 11 TO 16 MILLION POUNDS

Rome, Ga. Plant of the Tubize Chatillon Corporation

THE weaving and knitting advantages of Tubize Chardonize, together with the constantly growing consumer appreciation of this fine Rayon, have taxed the capacity of Tubize Chatillon Corporation to the point where increased production facilities were vitally needed.

In increasing their annual capacity from 11 million to 16 million pounds, the expansion program required major additions to the filter plant, power plant, spinning department, twisting and winding department and all of the auxiliary operations. The problem was one of maintaining production during a major construction program, with minimum interference.

Your problem may be simpler or more complex than this. Whichever it is, you will find that the scope of our experience and personnel will enable us to handle it effectively for you.

ROBERT AND COMPANY
ATLANTA INCORPORATED GEORGIA
Architects and Engineers

cussed thoroughly, break draft between middle and back rolls, on roving and spinning.

In my opinion, eternal vigilance is instrumental and effective on every process, and reliable help is as important as good maintenance, rather than on drawing alone, as good help means a good job, and a good job is more profitable for all concerned, whether considered in peace of mind or dollars and cents.

J. R. (ALA.)

When Should New Spindles be Plumbed?

EDITOR COTTON:

When installing new spinning, which is the better procedure, to plumb the spindles, both top and bottom, immediately upon starting up the frame, or, to run the ring rail almost to the top, set the rings, and let the frame run for 30 or 60 days before plumbing the spindles?

CONTRIBUTOR NO. 6735

"Wash" Answers "J. R."

EDITOR COTTON:

In answer to "J. R. (ALA.)" First, "What causes an occasional bobbin of roving to be wound in the reverse direction on the English type of roving frame?"

The first time I ever saw backward winding was in the year 1900. It happened in a mill in Fall River, Mass., only on one spindle, and the trouble was caused by a dry bobbin gear. The bobbin gear raised out of mesh with the skew gear and the pressure on the presser pad and a strand composed of strong stock carried the bobbin around at a surface speed slightly less than that of the spindle, which caused the reverse winding.

The next time I had the same experience was in the year 1910. This was in a Connecticut mill, and in this case we found the trouble to be in the bore of the bobbin that fitted the spindle too snugly. The bobbin would rise from the pin on the bobbin gear and the action was the same as in the case of the dry bobbin gear.

I think that "J. R." will find the trouble to be due to either a dry bobbin gear or to a tightly fitted bobbin, or it may be due to a defective pin on the bobbin gear.

Answering his second question, that of the method of changing draft gears, etc. This is not a question of minority or of majority, but, instead, a question of the law of averages. There is only one method of changing gears on drawing frames, it being the same method used in the spinning room in order to get the average weight of the yarn for that time of day, which is termed "pick-ups", and means to take a bobbin from each frame in the room. The same goes for drawing frames. Size a sliver from every head on the finished line of drawing frames, and by the average weight of all of the slivers on that line, determine the amount of the change that should be made, either on the heavy or light side, as the case may be, on all heads.

Now, the third question. "J. R." and others will admit that the question of break draft being an advantage or disadvantage where the evenness of yarn is concerned has never been settled, and I doubt if it will be for years to come.

Let us assume that the draft between the drawing rolls is as follows:

Between the 4th and 3rd rolls, 1.253; between the 3rd and the 2nd rolls, 1.753, and between the 2nd and the first rolls, 2.584.

Now, to prove the draft we find the surface speed of the back roll and divide into the surface speed of the third roll, and this proves that the surface speed only is considered, and not the driving agent. In other words, when you employ the break draft system it is only a different method in driving the rolls, and of course the same draft that can be obtained by the break draft system can be obtained by the continuous drive, and the action on the fibers is the same, and with the same roll setting.

To make my first point clear, the power that drives the rolls has no effect on the evenness of the strand, but, instead, in the speed of the rolls, the proper spacing or setting of the rolls, and a sliver of suitable weight so as to eliminate friction between the bottom steel roll and back roll.

"WASH (R. I.)"

"Run Belt with Grain Side Next to Pulley"

EDITOR COTTON:

Answering the question of "CONTRIBUTOR NO. 6615" as to which side of a single leather belt should be run next to the pulley, the flesh or the hair side. Laws are made because they are considered to be the decision of a large group and are supposed to be the best decision for all. Consequently, it is law that the hair side of a belt should be run next to the pulley. Isn't it a fact that the skin side of anything is supposed to be the toughest, the side which should be able to stand the weather the better? It becomes accustomed to the changes of heat or cold; it must withstand the shocks of sudden impact, and it must withstand the push and pull.

Then, too, the belt maker must have a way to make laps, and this way must be uniform. Consequently, the belt maker adheres to the law on the subject and makes his laps to conform to that law. To run a belt otherwise means running that belt against those laps.

No doubt, as our contributor says, a surprisingly large number of mill men do run their belts flesh side to the pulley, which to them may seem to be the best way. Then they probably jump on some belt man about the poor service they get from some certain belt.

CONTRIBUTOR NO. 6636

Previous answers to this question have appeared on page 119, May 1937 issue, page 107, September 1937 issue, and page 101, November 1937 issue.

New

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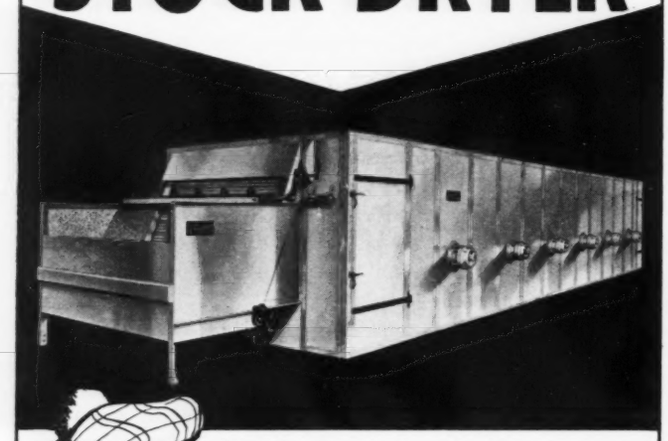

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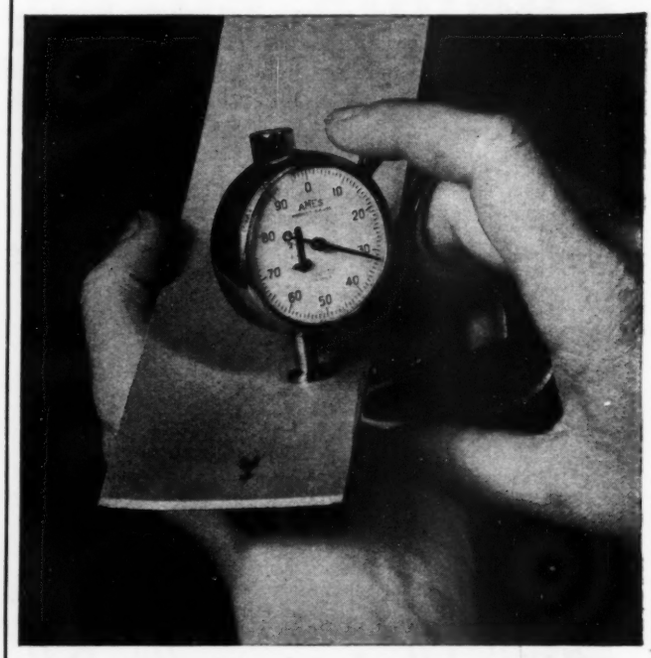

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Oddly, we can furnish you these *better* long draft aprons for even less money because our entire business is devoted to the manufacture of textile aprons. It is not a sideline with us. With our production and lower overhead we can make savings and pass on these benefits to our customers in lower prices. Why pay more?

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Samples of sufficient quantity for your own trial will be furnished. Let us know the machinery or system for which they will be applied. Write today, addressing Dept. C-1.

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905 South Main St., East Point (Atlanta), Georgia.

Retrospection—by "Wash"

EDITOR COTTON:

In the December 1936 issue of COTTON, page 117, "CONTRIBUTOR NO. 6570" makes a poor and feeble attempt to answer my question put to "A. T. G." on page 97 of the June 1934 issue of COTTON. Another textile school graduate gone wrong, and I am going to prove it. But before doing so, let us do a little retrospecting.

On page 83 of the December 1932 issue of the magazine I made the following statement: "Instead of figures, knowledge and experience are required." I referred to the textile school graduate who lacked practical knowledge and experience.

On page 69 of the April 1933 number "CONTRIBUTOR NO. 6207" states: "After all, there is nothing like practical experience." On page 66 of the June 1933 issue "CONTRIBUTOR NO. 6211" states: "His training should be supplemented by practical experience, of course, before being placed in charge." On page 78 of the August 1933 issue of COTTON the fun begins when "A. T. G." gave yours truly a spicy answer, but died on third base. He states in part, "The textile school can be admired in that it teaches its graduates to have a broad and open mind; it teaches them to analyze and to think wisely and conservatively"—I hope the reader will hold the foregoing in mind, for I am going to give him a sample of that wise and conservative thinking.

On page 98 of the May 1934 issue "K. C. (CONN.)" states, "I think a textile school graduate is all right as far as figures are concerned, but I do not think he is capable of taking charge of a card room until he has had practical experience."

"K. C." is dead right. On page 113 of the October 1934 issue "TEX. (GA.)", one of the best writers of this department, states, "But as you know, in the mill you are dealing with actual problems of production, waste, cost and quality; you are dealing with folks, the human equation, and it is here that practical experience becomes a valuable asset.

On page 1170 of the October 1931 issue of the paper "LAUNDRY (MASS.)", states, "Being much surprised at reading something so contrary to general practice, I investigated in my catalog, only to find it a false alarm." He had reference to the draft less than one between the drawing rolls and calender rolls on a drawing frame. I changed his mind in the January 1935 issue. On page 155 of the April 1935 issue "R. E. C. (CONN.)", after trying to give me a little roasting, states, "I am practical enough to admit that such things as balancing the production of a room are the result of experience only, and that the graduate is not fitted to step into the management immediately upon leaving school."

On page 83 of the July 1934 issue of COTTON, "CARDER (MASS.)" states, "I have come to the conclusion that either 'WASH' started attending a textile school and could not keep up with the work laid out or he has come in contact with a textile school graduate who has shown him up and he is still sore about it."

I am a graduate.

Then on page 97 of the March 1935 issue of COTTON "CARDER" makes the confession that he attended the textile school but failed to graduate. So there must have been something wrong with his think-tank. On page 121 of the November 1936 issue of the magazine "CARDER" stands corrected regarding the taper on the English builder; like "CONTRIBUTOR NO. 6570" he came to rescue "A. T. G." and he too died on third base. "CONTRIBUTOR NO. 6570" is another wise guy. Read the 14th paragraph of his article where he states, "I think the fact—notice the fact—that some of these textile graduates have passed 'WASH' on the way and gone so far ahead of him is one reason he is down on them." Now how does he know I was passed? Is that not some wise and conservative thinking? I am told that many principals and instructors of textile schools are growing whiskers to hide their blushes for turning out such misfits, and who can blame them for doing so?

You can see that all graduates who lack practical experience have the same track mind; they think wisely and conservatively.

Most of the foregoing textile school students or graduates have taken a shot at 'WASH' for making the same statement that they have made; that is, that a textile school graduate must be practical before he can take charge of a department or mill. I think the boys of this department will admit that I have done my best to impart my mill experience to textile students and that I am not down on them.

"CONTRIBUTOR NO. 6570" states in the first paragraph of his article, "I am submitting herewith an answer to the foolish question by 'WASH' put to 'A. T. G.'"

Foolish means weak in intellect. Ridiculous!

I am undecided whether to accept this as a compliment or not, for you know it is only wise men who know how to play the fool.

A textile school education teaches you to cleverly cover up your ignorance, something that "CONTRIBUTOR NO. 6570" has not borne in mind.

The brain is an organ, and the only way to exercise it is by thinking. To take interest in what the world is saying and doing, with the proper expression of your own thoughts, is eminently hygienic.

Now for the question:

When the bottom cone is raised the spindle and bobbin rotate at the same speed. On this point there can be no argument. Then, if one revolution of the differential sleeve will wind three inches of roving when the driving shaft is stopped, how many inches will be wound if the differential sleeve makes one revolution when the driving shaft is up to speed?

The foregoing was put to prove to all students that the winding-on is done only by the bottom cone.

If "CONTRIBUTOR NO. 6570" was a practical man he would have answered as follows: If one revolution of the differential sleeve will wind three inches of roving when the driving shaft is stopped, the same amount will be wound when the driving shaft is up to speed minus the contraction of twist.

The reader can deduce from the foregoing question that it is far from being a foolish question and one that deals with the principal foundation of a fly frame,

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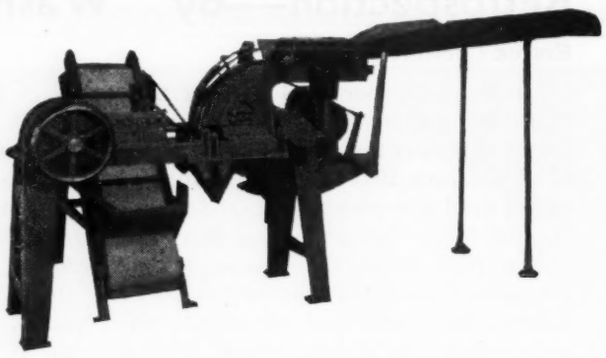

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The above figures were obtained before the Bobbin Conveyor and the Bobbin Box Hoist were marketed. These accessories do away with the necessity of an assistant and save their cost in a short time. The Hoist lifts large boxes of uncleaned bobbins onto the Type K hopper, and the Conveyor carries cleaned bobbins away from the machine.

Perhaps you can save an appreciable sum by installing the Type K Bobbin Stripper and its accessories in your mill. We will gladly make an investigation for you, without obligation.

See Also Textile World Year Book and Catalog

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and it goes to show that you must have practical experience in the operation to be able to answer the question.

Please be reminded that in the last lines of the question I warned "A. T. G." about being careful in giving the bobbin lead system a black eye. "A. T. G." was clever enough to evade the question, but "CONTRIBUTOR No. 6570" fell in the trap. You can gather from his article that his purpose is to blind us with science and figures taken from a catalog issued over 30 years ago. Like "A. T. G." he has taken up a large amount of space to explain trite stuff from an old catalog. Of course, he thought he complicated the matter by not giving the train of gears on both the excess and standard speed.

So, for those who wish to follow his figuring, which he terms a problem, they will find it very simple. The gearing follows:

Front roll diameter 1-3/16-inch; bobbin 1¾-inch; spindle gear driving shaft 42; gear on end of spindle shaft 39; skew gear driving spindle gear 44; spindle gear 23; large front roll gear 130; gear on end of top cone 71; gear on middle of top cone 39; twist gear 24; bell gear 42; gear on end of bobbin shaft 35; skew gear 44; bobbin gear 23.

The examples are simple and correct.

Next, he subtracts the speed of the spindle from the speed of the bobbin which equals .20748 r.p.m. of bobbin in excess of the spindle.

Then, he states, "So you see I can't be far wrong on these figures given here." How could he be wrong? But that figuring does not amount to anything, for in one case he figures with the excess speed of the bobbin, and in the next case by the speed of the differential sleeve, so you can't be wrong figuring the same train.

Now follow me closely and see which one of us gets the black eye. After the fancy and useless figuring he gives us, he states, in the 8th paragraph: This same frame with jack shaft stopped will wind for each revolution of this sleeve gear: 2.29565 × 5.50 = 12.626 inches of roving, which is far from 3 inches. Please remember that the foregoing figuring is for one revolution of the sleeve gear.

From this figuring we must consider the spindle as standing still, and the roving will draw through the flyer without twist and without breaking.

Now, I am willing to grant that the drawing rolls will revolve with the jack shaft stopped to suit his calculation, but what about the bottom cone that is the only agent to wind-on?

"CONTRIBUTOR No. 6570" after two years of wise and conservative thinking discovered that by multiplying the speed of the bobbin by the circumference of the bobbin he had a black eye in store for "WASH". The poor fellow, not being practical, forgot that the bottom cone was the only agent to wind the roving on the bobbin. I really believe that the foregoing was the sparker to his article.

Now, how does the front roll deliver 12.626 inches of roving for each revolution of the sleeve gear when the jack shaft is stopped, and only 1.14078 inches when the jack shaft is up to speed?

What a black eye!

Imagine one revolution of the differential sleeve delivering 12.626 inches of roving.

I never fear getting a black eye from textile school graduates lacking practical experience, for there is so little competition.

"CONTRIBUTOR No. 6570" finds the bobbin speed in excess of the spindle to be .20748 r.p.m., which is correct. This may seem very small to many, but please remember that the excess speed given must draw the roving past the pressure of all paddles, which is enough to revolve the spindles if the spindle shaft gear was disengaged for that minute.

It proves also that the sleeve speed is always greater than the speed of the main shaft during winding, and what a black eye this is to the bobbin-lead system.

Keep the foregoing in mind and then put this question to yourself: What drives the excess speed; why, the cone belt, of course. Whether the frame is running or stopped, you must turn the bottom cone to wind-on. That is why I put the question, to prove to all students that the bobbin-lead system is wrong. Some mill men will argue that the fixed gear on the main shaft is an aid to the differential sleeve. How can this be possible when the speed of the sleeve is always greater during winding than the main shaft?

Since the bobbin-lead was adopted your cone belt has been overworked. That is why you must have the best quality belting. The system is to blame for the vagaries found in the cone belt, for the reason that you have a small belt driving (in some cases) over 200 bobbins, with a 12 per cent greater pressure between the presser pads and bobbins at the start of the set when the bobbins are at their highest speed, and the cone belt on the smallest arc of the bottom cone.

At times, there is so much friction on the cone belt that the sides will curl.

Now, consider the foregoing with the ratio of the cones at this point and the pressure on all paddles, and you will agree that there is something wrong with the bobbin-lead system, while, with the flyer-lead, the flyer revolves around the bobbin which has a tendency to take the bobbin around with it, which is a great aid to the cone belt.

In the last paragraph of his article "CONTRIBUTOR No. 6570" gives us some good advice. However, he should practice what he preaches.

Calling a question foolish, which has been proven to be a practical question, is not the best way of doing things, especially when you are not able to answer it. So, what I stated in the year 1932 goes for 1937. Instead of figures, knowledge and experience are required.

WASH (R. I.)

"Give thine ear to . . ." Even a sweeper has some good ideas.

"I'd rather have a man who thinks foolish thoughts than a man who doesn't think at all."

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Continued from Page 127

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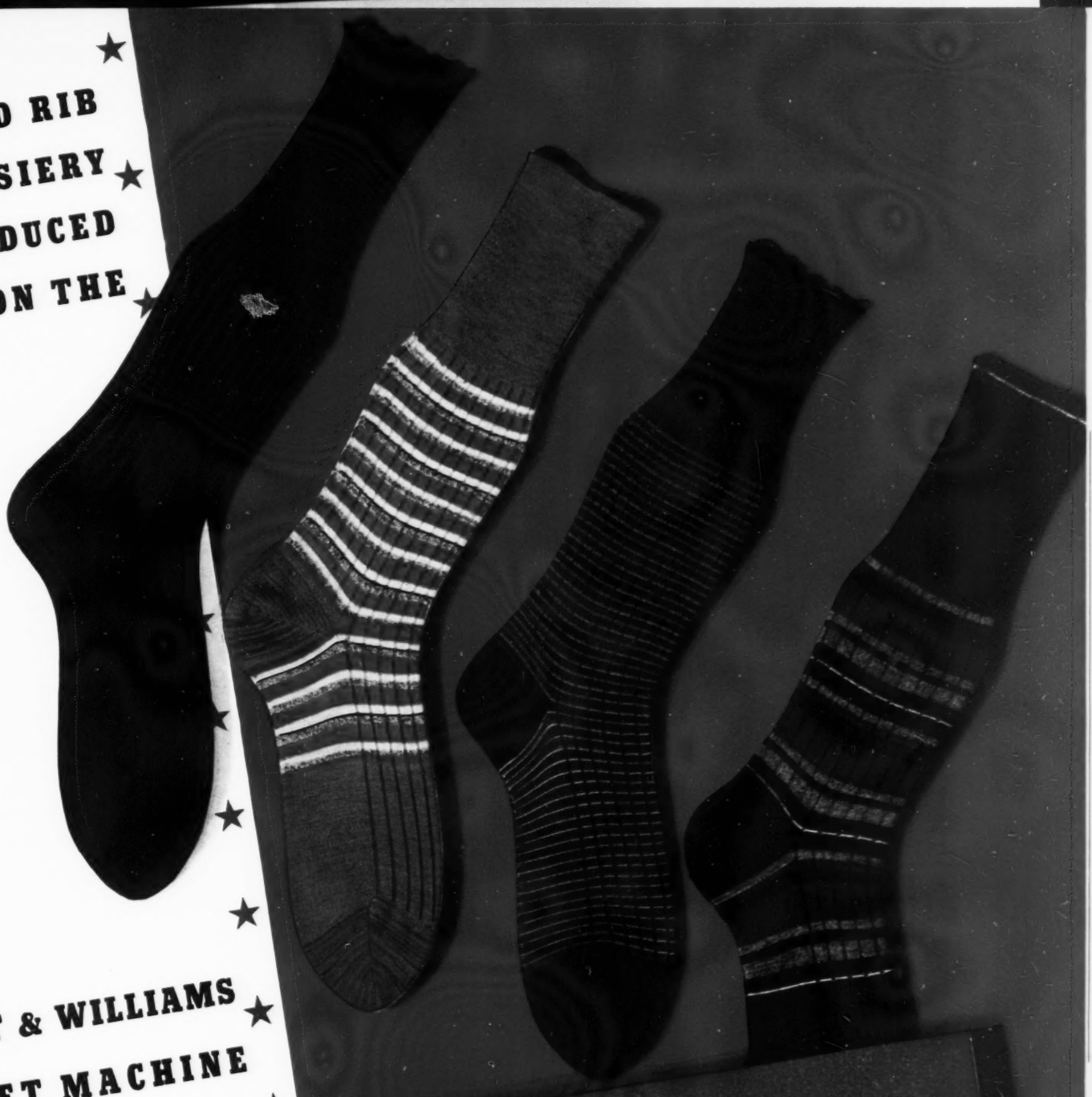

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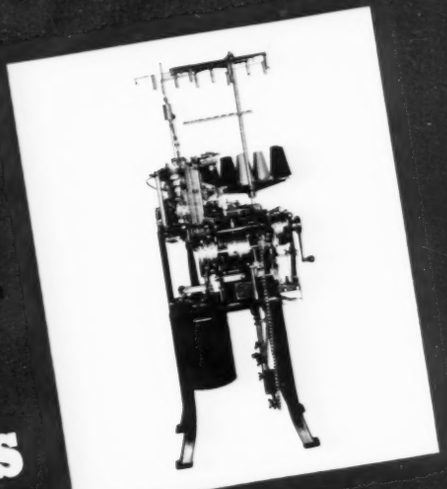

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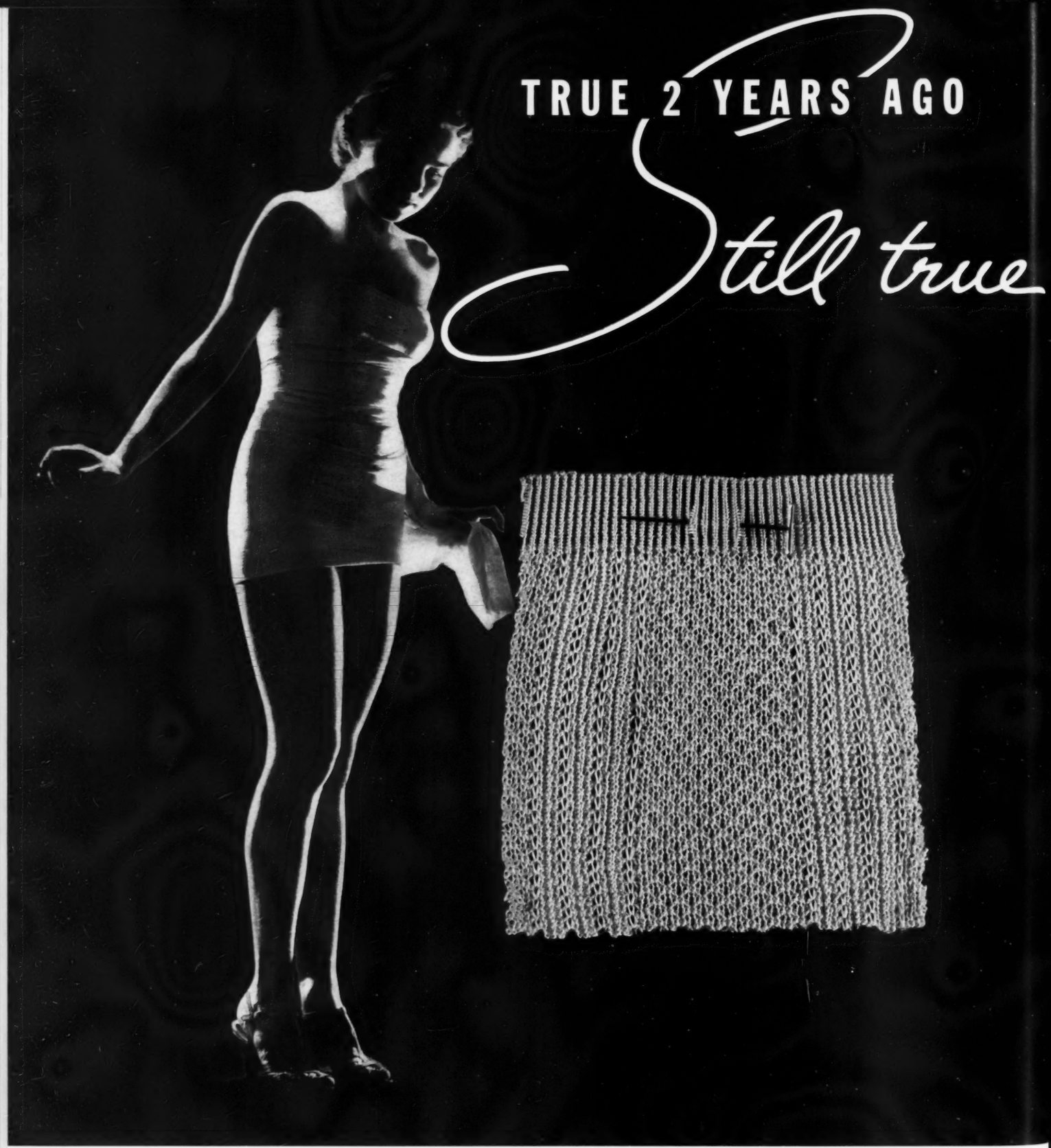

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KNITTING SECTION

The Maintenance and Fixing of Full-Fashioned Hosiery Machines

THIS is the fifth installment of a series of articles on full-fashioned machine maintenance, being prepared especially for COTTON by a competent mill man. The first installment appeared on page 103 of the July issue, the second on page 117 of the August issue, the third on page 119 of the September issue, and the fourth on page 113 of the November issue. Thus far the vertical motion of the needles, the horizontal motion of the needles, the function of the regulator, and formation of stitches have been discussed. This installment is devoted to an analysis of the sinker head and knock-over bar adjustments. The author will take up any particular phase of fixing you desire.—The Editors.

By Arthur J. Cobert

Sinker Head and Knock-Over Bar Analysis and Adjustments

THE FIXER must come to know a great deal about sinker heads, both of their construction and proper replacement into the machine. This part must be removed from the machine occasionally for repairs and a thorough knowledge of it is most essential. As the function of the sinker head has been more or less explained in previous articles we will enter immediately into a discussion of its construction.

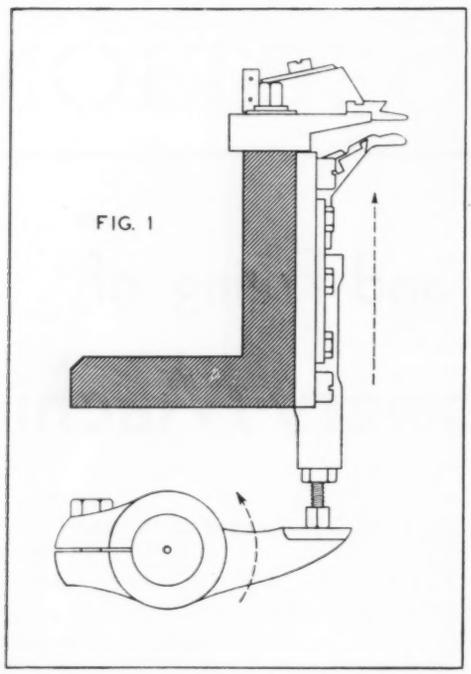
The sinker head consists of two major parts, the upper and lower walls in which the slots are cut for the sinkers and dividers. These two walls are separated by two blocks of brass, one on each side, which are so placed as to allow the sinkers free movement in the slots without excessive up and down play. This holds true only at the ends of the sinker head, the distance between the top and bottom increasing toward the center. This tolerance is then decreased by two adjustment screws placed about one-third the distance from each end of the head. In other words, instead of these blocks being milled absolutely square, they are slightly tapered so that when the main screws at the ends are tightened down, the center of the head will be slightly bowed upward. The top portion of the head, being much lighter than the bottom, is the only one affected in this manner. As previously stated this bow is then removed by drawing down on the adjustment screws, otherwise known as stiffening screws. This method of building the head is quite obvious when explained. First of all, no long light piece of brass as in a sinker head can be machined so perfect as to allow the sinkers the same tolerance in the center as on the ends, and secondly, the adjustment screws act as supports for the head when tightened down properly.

The construction of these two adjustment screws is unique when it is taken into consideration that they must pass from the top to the bottom of the head between the sinkers and dividers. In a 51-gauge machine where we have 34 needles to the inch, the screws must indeed be narrow so they will not interfere with the sinkers and dividers. They are made large at the top and bottom and narrowed down at the center to fit between the slots in the head. These screws are fitted with lock nuts to prevent any change in the spacing of the head.

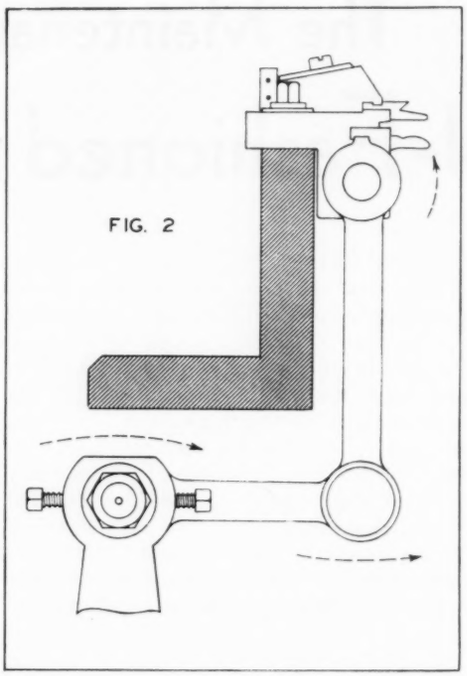
The top and bottom walls of a sinker head are held in position by two dowel pins so that the slots in each portion will always be synchronized with one another after the head has been taken apart and reassembled. Without these pins it would be difficult to keep the sinkers in a true vertical position, without leaning to one side or the other.

The two holes in a sinker head through which the screws pass, holding the head in place to the bed of the machine, are drilled over-size to permit adjustment of the head in any direction. When the proper gauge is used to set the head the bolts should come directly in the center of the holes. This is one way to determine if the gauge used is fairly accurate.

The gauging edge of the head is that part of it known as the presser edge and from this point, not only is the head itself gauged, but the verge plate is also set from it. This is to insure a perfect line running parallel from the table to the verge plates. The importance of careful and uniform gauging of the sinker head is readily understood as so many different parts depend upon their position relative to this part. First of all, the presser edge must be parallel with the needle bar to insure even pressure and proper closing of the beards. Then as the verge plates depend upon this point for setting, the catch bar could not catch the sinkers unless these plates form a continuous straight line from one end of the machine to the other. Crooked



Illustrating two of the most commonly used types of knock-over motions. A cross-section view of the sinker bed with the sinker head bolted on top is shown. The knock-over assembly is to the right of the L-shaped bed, the arrows pointing direction of movement. Fig. 1: Knock-over motion employing vertical movement only. Fig. 2: Knock-over motion employing movement traveling through an arc . .



sinker heads will cause uneven fabric though the verge plates be set properly from the presser edge. The distance from the table to the verge plates determines the forward position of the catch bar.

The jack heads and slurcocks also depend upon the sinker heads for their settings. As the slurbar is supposed to be parallel with the table, unless the sinker heads are parallel, this will cause the slur cocks to run off obliquely on one side of the sections. Hence, as all these settings depend upon the sinker heads, we can consider this a basic setting for all parts concerned. The importance of using the proper standard gauge for this part cannot be stressed too greatly. When two gauges are used to set the sinker head, one for each side, the fixer should re-check the head using only the same gauge for both sides. It is a good plan to re-check this position with a light adjustable gauge which has been set to the average point. The feel with such a gauge is much more sensitive and accurate.

The standard verge plate gauge is also important inasmuch as the verge plate is an auxiliary setting from the presser edge to the forward position of the catch bar. An adjustable verge plate gauge may only be used in the straightening of crooked and uneven sections which will be explained in a later article on this subject.

In centering sinker heads between the needles, the fixer must take care not to have the head one or two needles off from its proper position. When these heads are placed in position at the factory they are set so that all the relative parts align up with them perfectly. It is easy to place a head correctly if the center of the bolt holes are observed carefully. Should the head be misplaced to one side, the jack head bolts will be forced up against the side of the holes through which they pass in the bed, not permitting any adjustment of same. The slurcock lead will also be thrown off as the amount of adjustment sideways in this part is very limited. Also the carriers in that particular section will be out of square with the rods.

Occasionally, on double needle bar machines, a sinker head has to be raised on one side to bring the tops of the sinkers level with the tips of the needles. The best method is to pack the sinker head on the under side with thin paper as filing of same is very difficult for practicability.

Removing the Play

Excessive up and down play caused by worn slots in a sinker head may be removed in two ways. The most successful is to send the head to the factory for re-cutting, as today much emphasis has been brought to bear upon this operation and most of the factories are prepared to do this work expertly. If the heads are not worn badly, the fixer can, upon careful study, remove most of this play in his workshop. The head in question is taken from the machine, dismantled, and cleaned thoroughly. The blocks are then emeryed down just a little and replaced in the head. It may take several trials to fit the sinkers correctly. As before stated, the blocks are slightly tapered and unless this taper is preserved in emerying, the slots will be free enough at the ends of the head but entirely too tight in the center, causing the adjustment screws to be absolutely useless. With a little practice the fixer will learn just where and how to emery these blocks to the greatest advantage. If too much brass is re-

moved accidently, the block may be spread by using a cold chisel to make small indentations on the ends. This practice is often resorted to at the factory when building new sinker heads.

When broken stiffening screws are to be replaced, they must be filed to fit by hand as it is impossible for the factory to cut them to the correct size for every head. No explanation for filing these can be given with the exception of a few precautionary remarks. After inserting a new screw into a head and observing which side requires the least filing to allow the sinker passage with the minimum of clearance, mark the screw on the bottom so that it will always be inserted the same way and not reversed. File one side just sufficiently to permit the sinker to pass without striking. Then file the other side, keeping the screw as heavy as possible to insure the greatest protection against further breakage.

As the verge plates must form a perfect line to insure good fabric and proper working of the catch bar, they must be kept in good condition. Grooves will appear on the striking edge of the plates which will in turn cause vertical streaks in the fabric. These grooves can be machined off, renewing the surface, providing the equipment used for this work is of the highest quality. It is much more advisable to replace them with new ones as the superior performance of these will more than off-set the small cost. Verge plates should be tested with a straight edge after fastening them in some suitable jig which will hold them in the same position as in the head. If any filing is to be done, care must be used to keep the proper angle on the striking edge so the sinkers will strike uniformly at the top and bottom of this edge.

There is one new method designed to eliminate excessive up and down play in worn sinker heads which bids fair to supersede all others, inasmuch as it does not require re-cutting of the slots and at the same time gives a lasting job to the head. As it is still in the experimental stage it is not yet available to the trade, although it will be in the near future.

The presser edge will in time become worn, deep grooves appearing in it from the continual pressure of the needles. Much needle breakage can be traced to this point because frequently these grooves will form close to the sinker slots and as the needles are pressed against the edge they will be forced to the sinkers, resulting in broken beards. Very often a single needle will break continually in exactly the same place for no apparent reason, which may be traced upon closer scrutiny to this source. It is advisable to remove the head and file off the entire presser edge until the grooves disappear. The small amount of brass removed will not have any effect on the press motion, but will eliminate the needle breakage due to this fault.

Knock-over Bar Analysis

There are many different types of knock-over bars in use and only a general explanation can be given concerning this motion. Some types are actuated only in a vertical motion while others are actuated in an arc. Again some of the latest types have a double motion, both vertically and horizontally, which aids in shedding the loops from the needles, requiring very little draw-off motion. This later type has a radically different form of knock-over bit, having a split similar to a selvage divider, in which the loops are pushed clear of the needles during this motion.

There are also several different methods of actuating the knock-over bars from the cams. One method engages the rollers to the cams continually so that any adjustment of the rollers will in turn affect the position of the knock-over bars at all points. The other method permits the rollers to ride free of the cams at all times except when the various high points of the cams come in contact with the rollers. An explanation of the different methods will be given as it is felt this is quite important.

In the first instance, where the rollers contact the cams at all times, each variation in the height of the bar which is made to shed the loops during the knock-over motion is reflected in the various motions as well. Too high knock-over bits that have been raised to clear the fabric, such as in the use of heavier yarns, will sometimes cause cutting at the fashion mark during the narrowing motion. On the other hand, where the knock-overs have been lowered on the rollers to stop cutting of the fabric during the stitch motion, oftimes this adjustment will throw the bars too low during the narrowing motion. This condition prevents the needles from entering the loops properly on the delivery of the stitches from the narrowing points to the needles. This holds especially true on lace or picot where the loops are elongated and are carried farther down between the knock-over bits.

In the second method, where the rollers contact the cams only on the high points, raising the knock-over motion on the rollers does not affect any other point, such as the narrowing position, which remains neutral regardless of the roller adjustment.

In a previous article it was stated that the needle height, by the use of a standard gauge, should be considered a basic setting for a great many other motions. This holds true in the case of the knock-over bars. Although standard gauges are furnished for knock-over height, the actual height will vary with the different counts of yarn used. Heavier yarns will require higher knock-over bar adjustments and in the use of lighter yarns the opposite holds true. In other words, it is better to vary the knock-over height to suit the yarns than to adjust the needle height.

Where the fixer wishes to re-gauge the entire knock-over motion, the rollers should be leveled first before any attempt is made to adjust the bars. Where the rollers are held away for the cams by some sort of a bracket, the brackets should be released or removed to allow the rollers contact with the cams on the half rounds and leveled at this point to prevent any strain on the arms or permit any uneven motion of same. The brackets should then be adjusted, allowing the proper clearance between rollers and cams as specified by the factory. Last of all, the in-

(Continued on page 143)

Sheer Perfection with Specially Finished Needles

What makes Royersford Specially Finished Needles so effective in maintaining fast, even production of a clearer, sheerer fabric is the most exacting series of tests ever devised for the control of quality in needle manufacture. All the facilities of our needle department are concentrated on this one product. Because special finishing is a "standard" operation, you get Royersford Needles at the lowest price you ever paid for anything approaching this superior workmanship.

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ROYERSFORD NEEDLES

"Preference to Athletes"

Agrees with "Contributor No. 6629" in his letter of the July issue . . . . . .

EDITOR COTTON:

I have not previously been a contributor to the "KNITTING KINKS" department as I am not associated with this branch of textiles, but occasionally I peruse these pages of COTTON and glean what I am able to from them that I can understand.

"CONTRIBUTOR NO. 6629" has presented something for discussion, on page 117 of the July issue, entitled "Preference to Athletes", that I have often spent some time thinking about, and I believe that its presentation will warrant considerable comment. Observation will prove that too much partiality and favoritism is shown certain men or boys because they are athletes, or to be more specific, *ball players.*

The major point of controversy in trying to use these ball players in the mills is the fact so many of them rely on their ability to play ball to get them by rather than the use of their brawn and brains to do a job efficiently and satisfactorily. Usually the jobs assigned them are those that require just ordinary intelligence and effort to perform the duties, but too many of them lag and loiter rather than push and sweat. This lagging on the part of the ball players (knowing that they can get away with murder if they wish to, because of their ability to play ball) causes their jobs to get behind, and then more doubling up will have to be resorted to in order to have things function as they normally should. This will demoralize most any organization if repeatedly done.

One overseer I know when discussing this subject stated his view thus, "If ever we can get these ball players to think cotton milling (or hosiery knitting in this case) when inside the mill, rather than strikes and hits, and home runs, we will have mastered the situation."

This man is absolutely right. But the problem still exists. Among so many amateur or semi-professional baseball clubs, the members aspire to become big league players and even though the hole cards are stacked against them, they lean heavily on that wee ability that they do possess.

As "CONTRIBUTOR NO. 6629" says, ball clubs many times are run at a dead expense to the mills (both cotton and hosiery) and also at the ill will of many of the older employees.

I enjoy a good ball game as well as any man I ever met. I am writing this while sitting in the ticket booth waiting for a game to start; I give considerable time gratis to my mill team. Also I have four of the best players on the team working in my department as well as several of the second nine set up and still more of the soft ball line up. It took some patience to finally put it over to these boys that just as much is expected from them as workmen as is expected of the other help, and that the mill is not commercializing a ball club to make money for them, but rather sponsors it in order to keep the fascination alive, and to foster a loyal spirit among the boys.

I watched the efforts of rival teams in a town for four years, cotton mill versus full-fashioned mill. Each fall the cotton mill would take in several players that had done well in the summer elsewhere and train them in jobs and give them employment for the winter, hoping that they could profit from their training and also keep alive the interest in baseball. The next spring the management of the full-fashioned mill would wait until the opening of spring practice and try to lure the players into their employment with a flowered picture of the advancement that could be gained by entering the apprenticeship period at the hosiery mill. Some of them would be enticed and serve the three months period, and when the ball season was over would be very dissatisfied with the progress made at the hosiery mill and would quit. That tended to promote a floating element, and kept the cotton mill nine continuously hiring new players.

To think about the money spent to train knitters

WE invite our readers to make use of this department for the discussion of any and all prob ems arising in connection with the knitting mill from the office to the packing and shipping departments. Questions, answers or letters need not conform to any particular style and will be properly edited before publishing. All questions will be answered as promptly as possible. The names and addresses of the contributors must be given but wil be held in confidence and a pen name substituted when printed. All acceptable contributions other than questions will be paid for after publication. The editors do not hold themselves responsible for any statement of opinion or fact which may appear in this department unless so endorsed. This department is open to all.

◆ ◆

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. . . Because we want to improve our competitive position . . . Because we can no longer afford to waste time trying to squeeze a profit out of obsolete equipment! In production-for-profit, even those full-fashioned knitting machines that were new in 1930-31 are severely handicapped in competition with the speed, balance and flexibility of the new READING high-production Machines of 1937. Write us for facts—and figures.

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can also be represented equally in the cotton mills, and if some return isn't realized from its expenditure it is about the same as having it shovelled into the furnace.

One player, a pitcher, for example, remained as a learner for 18 months, at learner's rate of pay, but never seemed to have that initiafive to advance to helper and then a knitter. Finally he was let out, and is now a dry cleaning solicitor. He did not have the knack for knitting, but was a comparatively good ball player.

In the cotton mills, the older heads are able to recall the usual summer season for overhauling, when the mill would recruit a number of the players as helpers to do the dirty work. Very little progress was made. But when this crew was gone the regular amount of work would be done with less help. It looked as though they were more hindrance than help.

Still some of the mills expect too rapid a speed on the part of overhaulers in going over the machinery, and the machinery is slighted rather than put into ideal condition.

Good judgment is necessary on this operation as well as any other job that is of major importance in the cotton mills, and I am of the opinion that the same thing exists in the full-fashioned mills.

Good ball players in many instances do not really appreciate the opportunities that are given them during these summer periods to apply themselves; and I do not favor showing them any more privileges than those that have merited their places by patience and hard work. If a man doesn't enjoy a ball game, don't force him to put his money into keeping the equipment in good condition, for if a ball club isn't self-supporting it is worthless to everyone including the players.

J. R. (ALA.)

Ratchet Pawls Wearing

EDITOR COTTON:

The question*, "What causes the chain pawl lifter plate to wear out sooner on some Scott & Williams machines than on others?" needs some correction and explanation before it can be answered satisfactorily.

I believe the questioner is somewhat confused regarding the different "pawls" of a Scott & Williams machine, or perhaps he has been a trifle misled. Nevertheless, the pawl he has in mind is not the chain pawl at all but is known as the "ratchet pawl". I admit this is somewhat confusing as the ratchet pawl is the only one that comes in contact with the chain; whereas the chain pawl never touches the chain at any time.

Let me try to show the difference with a few illustrations. Fig. 1 is the true chain pawl with "a" as the chain pawl plate. Fig. 2 shows the ratchet pawl with "b" the lifter plate in question.

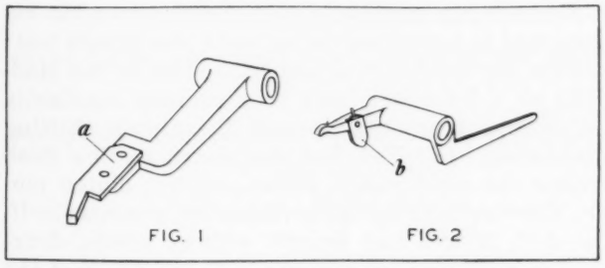
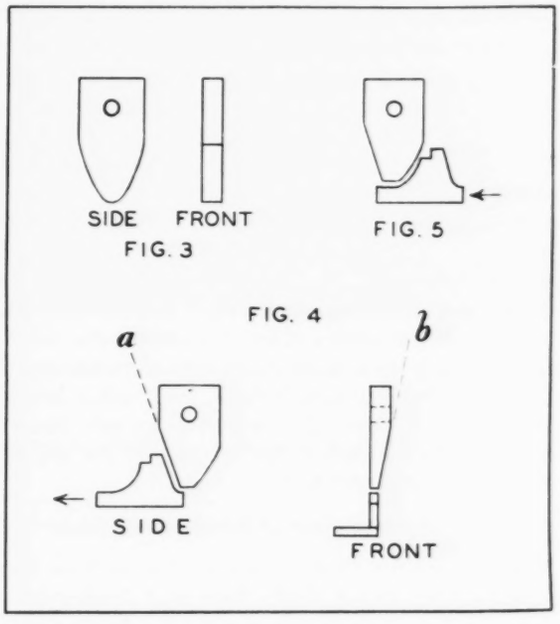


FIG. 1 FIG. 2

Now, as the ratchet pawl in Fig. 2 is the only pawl that has a lifter plate, I believe that is the one the questioner has in mind.

As to why one lifter plate should wear out sooner than another, we all know that it is impossible to get any two things exactly alike. It is highly improbable that these two pawl plates were cut from the same bar of steel, neither have they been tempered or hardened to the same degree.

Many mills have pawls and other parts made in some local machine shop, but in my years of experience as a fixer I have never found a local-made part that could come near to being as good and as uniform as those made by the machine makers themselves. As an example, take two new lifter plates, place them together side by side and notice the difference.



Some fixers will put a new lifter plate on a machine and run it without any caution as to how it is shaped or how it rides over the chain links. All new plates are shaped like the one in Fig. 3, but I have obtained better results and more wear out of each plate by grinding it to the shape shown in Fig. 4, before even trying it on the machine.

Great care should be taken in grinding any part so as not to overheat or burn it which takes some of the temper out of it. Possibly some fixer ahead of the present fixer has had a pawl plate off to dress it down (take the nicks out and the sharp edges off) and has

*This question did not appear in the magazine; it was asked by a friend of ours and we passed it along immediately to "CONTRIBUTOR No. 6723".

overheated it causing it to wear down sooner than the one next to it.

In Fig. 4, side view, the angle "a" is so ground at the front of the plate in order that the pawl can drop directly down off the "kick link" instead of sliding down. The angle "b" of Fig. 4, front view, is ground to prevent the plate from touching or riding on the chain ratchet wheel.

Instead of trying to prevent one lifter plate from wearing sooner than another I would give all the machines the same amount of attention and care to keep all of the pawls wearing as evenly as possible.

If the machines are running regularly and full time, check over all the pawl plates at least once a year. Take them off and dress them down if necessary to be sure there are no sharp edges on them. See to it that the lifter plate is riding squarely on top of the chain link as in Fig. 4, front view. Adjust the chain pawl plate so that it pushes the kick links right up to the lifter plate, as in Fig. 5, but not so far that it lifts the plate.

Examine all the chain kick links to be sure they have no sharp points on them, keep the chain good and tight, and I am sure the lifter plates will wear more evenly and at a minimum.

CONTRIBUTOR No. 6723

Fixing Model "K" Machines

The Driving Mechanism

THIS is the eighth of a series of practical discussions on the operation and adjustment of the Model K knitting machine, applicable primarily to the plain machines, but containing much pertaining to the spiral type of equipment. The first installment appeared in the April issue, page 188; the second in the June issue, page 157; the third in the July issue, page 110; the fourth in the August issue, page 127; the fifth in the September issue, page 131; the sixth in the October issue, page 192, and the seventh in the November issue, page 119. Yarn arrangements, make-up troubles, the cross-bar assembly, transfer trouble, the cylinder, stitch cams, auxiliary side cams, lower jack cams, auxiliary racking pawl assembly, auxiliary rocking cam, auxiliary cam bracket and the pattern chain have been discussed. The accompanying installment takes up the driving mechanism . . . . . .

WHEN WE THINK of the driving mechanism used on a Model K knitting machine and other Scott & Williams machines, we must include all gears, shafts, bearings, pulleys, clutch pinions, the segment gear and connecting link, the clutch device (usually referred to as a stop motion) and other more or less important parts which are necessary to keep the Model K turning.

Two factors which are very important in connection with the various parts mentioned and other parts which we shall consider as we go along are *lubrication* and *adjustment*. First, let us consider lubrication briefly.

Proper lubrication of the driving mechanism does not mean a *few drops* of *oil* hastily and *carelessly* applied whenever the fixer gets time, or more correctly, as often as he takes time. No! It means using the *proper* kind of oil, putting a *sufficient* amount in the right place and doing this simple job *thoroughly* and at *regular* intervals. The complete driving mechanism of a Model K machine should be oiled at least once each week; any machine fixer (or oiler) who fails to do this is a mighty expensive man to have around the mill. Boiled down to simple facts, lubrication is nothing more or less than *life insurance* for any piece of machinery. So remember, Mr. Fixer, you are the policy man for your Model Ks!

Care and Adjustment of Driving Mechanism

Many fixers feel that as long as the machine keeps turning and the clutch shifts back and forth without jamming, all's well with this part of the driving mechanism. Quite the contrary is true, for in many instances we find a machine going through the various movements, in fact, turning out its daily dozens with several things being radically wrong, such as being improperly set or timed or parts badly worn.

No one part of a Model K machine is subjected to more *unnecessary abuse* than the right-hand clutch pinion. Why do I call it unnecessary abuse? Simply because 90 per cent of the abuse can be prevented and eliminated. The total requirements necessary to prevent right-hand clutch pinion abuse (wearing out prematurely) are: a socket wrench, a screw driver, a few minutes' time, and a little horse sense behind the tools.

Every machine fixer has the tools and the horse sense, the mill supplies the time, whether or not he makes use of the things in hand depends entirely upon himself. There are no half-way measures in adjusting and timing the clutch shifting controls; they're either right or wrong; the fixer attends to the job properly or he doesn't.

Perhaps my comments may sound somewhat exaggerated to some fixer; if so, make this simple test: Remove the shields from any half-dozen of the Model Ks on a job which have been running constantly for several years and inspect the clutch shifting mechanism. IF: You find the clutch resting flush against the right clutch pinion (or left clutch pinion, after shifting to these respective positions); if, the shift is free and smooth without strain, dragging or binding, then you may rest assured that the pinions are not being abused and everything is so-so with the clutching action on your machines. BUT: If you find the clutch ⅛-inch or more away from the pinions, either right or left or both after the shift is made; if, the clutch key fills half of the recess in the pinion; if, when making the shift the clutch sounds as though it were on the verge of jamming; then, whether you are willing to admit it or not, you are subjecting the clutch shifting device to unnecessary abuse and the pinions are bearing the brunt of it.

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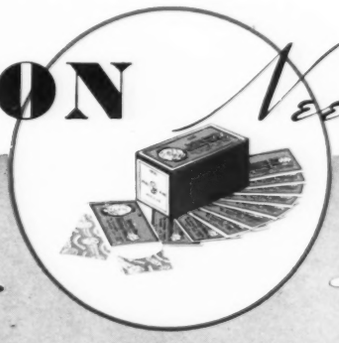

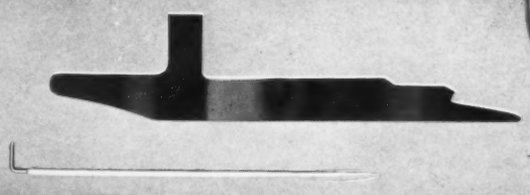

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Now, what causes unnecessary wear on the clutch shifting mechanism and pinions? Late timing of the clutch shipper drum ranks first, and improper adjustment of the clutch fork roll stud takes second place. To this we must add worn clutch fork studs and rolls, and worn clutch shipper drum cams. Frequently,the late timing of the shipper drum is directly responsible for unnecessary wear on the rolls, studs, and shipper drum cams. When the shipper drum is timed late, all the parts which help to shift the clutch are subjected to excessive pressure in order to force the clutch over. Instead of sliding over easily and freely, the clutch key enters the recess in the pinion about half way and then *drags* in the rest of the way under a strain.

My statement that late timing of the shipper drum ranks first in causing unnecessary wear on the pinions and shifting mechanism may seem odd, but did you ever see a shipper drum timed too early unless the fixer advanced it—they never get early of their own accord—they do get late through ordinary wear and tear and the process is a very gradual one; that's why it is often neglected or forgotten entirely.

So, it stands to reason that clutch shipper drums should be advanced at regular intervals to offset normal wear. And—that precisely is the very thing many fixers fail to do—they wait until the clutch begins to jam and then begin to readjust.

Shipper drum cams will, in time, become rounded on their front ends and fail to shift soon enough; new cams are cheaper than new pinions. Clutch fork roll studs will wear out but they can be replaced at a small cost. The rolls often develop flat spots and these are caused by the rolls failing to turn freely on the stud when the shipper drum moves forward. Once the rolls become flat they must be replaced; a flat roll will not shift the clutch all the way over and it has the same effect on shifting as a shipper drum which is timed too late.

Some months ago my friend, Sam, showed me a kink in connection with clutch shifting which may be helpful to some fixers—it was new to me but it may be old to you, so take it for what it's worth.

Sam was overhauling some old Ks from the legs up and he was finding quite a number of things which needed attention. In due time he got down to the clutch and clutch pinions; several were badly worn and had to be replaced. After putting in new clutch fork rolls and studs, he was still unable to get sufficient adjustment to move the clutch flush against the right and left pinions. When he used all the throw the stud would give, he could get one side right but when the clutch shifted to the other side it was still ⅛-inch or more away from the pinion. When he split the difference the clutch was off on both sides. Many fixers would have stopped then and there but not Sam; it had to be correct or else. After a little mulling, Sam heads for the machine shop and comes back later with several new (home-made) clutch fork stud rolls. He had them made with a ⅛-inch larger outside diameter and it took but a few minutes to put them in and readjust the roll studs. Once again the clutches were shifting all the way over on both sides just like they did when the machines were new. The idea is simple and inexpensive and it really works.

Every Model K fixer has had some experience with this particular trouble (lost motion in driving mechanism). Finding a machine that has this defect is simple, in fact you can find it with your ears. When you hear a healthy clank, clank, while the cylinder is reciprocating, you know something is wrong—preventing it is something else. Every cylinder, of course, comes to a dead stop before it reverses; when the driving mechanism is in good shape then no harm is done, but when a cylinder stands still and sort of waits for the rest of the machine to catch up or make up its mind to reverse, well, most anything is likely to happen.

Lost Motion in Driving Mechanism

Now what causes this excessive lost motion? The clutch shifting mechanism does for one thing. We have covered this, but many places still remain that will cause it also. Just recently one of our Ks developed a bad case of lost motion and it really was awful; one of the boys dubbed it a WPA worker. When he was asked why such a name was given it, he said that the cylinder in the machine stood still when it should have been moving. Closer inspection proved that he was right; when the end of a stroke was reached and the cylinder was on dead center, the crank handle could be turned about a half turn before the cylinder could move. Several fixers agreed that something must be radically wrong with it; actually it should have fallen apart, but when one man volunteered to fix it, he found nothing seriously wrong in particular, but a lot of little things were wrong in general.

The following is a complete list of what was wrong and what it took to fix that (WPA) Model K: A new clutch fork roll and stud, a new clutch key, high speed gear set screw was loose and gear key was worn, upper hole of the segment gear connecting link was worn for lack of lubrication, the oil hole was plugged, drive gear shaft gland screws were loose, the clutch spline No. 15702 was loose and worn, and the spline pin No. 964 was sheared off, and last, but not least, the gear ring spline was loose. No doubt the combination of other ailments caused the gear ring spline to break loose. After all of these various ailments were corrected, the old K actually made less racket than some of our newer machines.

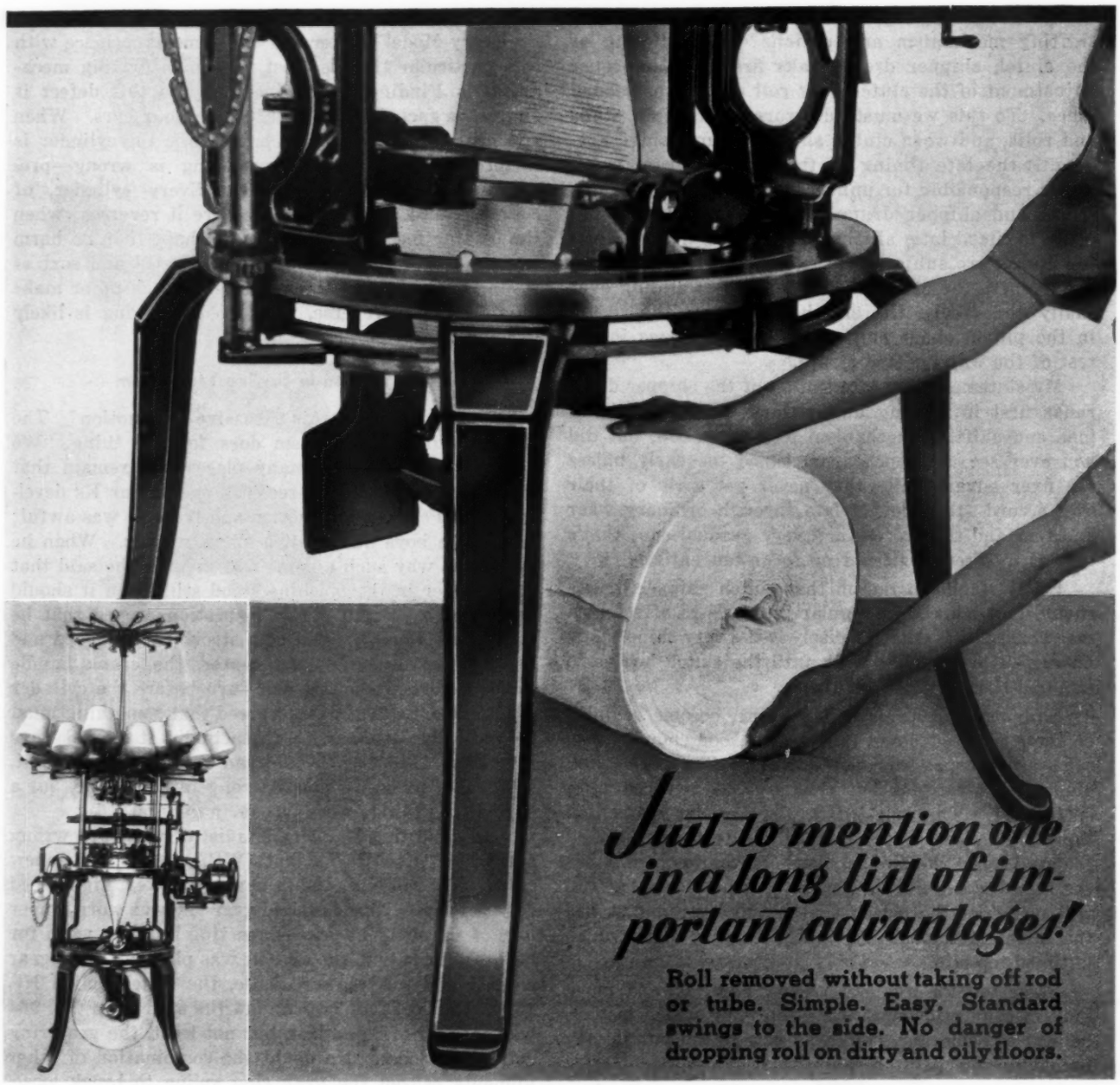
This particular case of lost motion is not unusual, and no fault of the machine whatever; it can and will happen if the machine fixer neglects little things. The best known remedy for preventing all kinds of machine trouble is a well planned and *carefully followed up check up* of all parts.

Look for and *prevent* trouble instead of *waiting* for and *correcting* trouble.

The wise ones will say that everybody knows that and my answer too is yes, but how many do it.

The Clutch Device

The clutch device is part of the driving mechanism of a Model K and is also supplied as regular equipment on the HH, RI, and other models. The name "clutch device" is a misnomer for in reality this device is a mechanical stop motion. Keeping this sim-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ple device properly adjusted and in A-1 shape will pay big dividends. One broken needle butt sounds the alarm bell and stops the machine. Without this device, one broken needle butt may multiply into 25 or 50 or a whole cylinder full, not to mention damaged cylinder walls, broken picks, or other machine parts, unnecessary labor, loss of production, etc., etc., far into the night.

But, like many other parts of the machine, this device is often neglected and misused and instead of saving time and labor and material, it simply rides along like a hitch-hiker. Many fixers feel that if the knitter is on the job and has his ears open, he should be able to hear the alarm bell and if his feet are not glued to the floor, he should stop a machine when the bell striker hits the first lick. *Yes, sir,* that's how *they* used to do it when *they* were knitters. They would profit more by keeping the clutch in A-1 shape and not depending on their knitters to stop the machines.

Not long ago I visited a mill where Model Ks were in operation, and while looking around an alarm bell suddenly began to ring. The knitter made a dive for the machine as though hell fire were behind him and he stopped the machine pronto. The fixer dislodged himself with considerable effort from a comfortable seat on a window sill and came up with a grin, saying, "That boy sure gets them stopped in a hurry." Yes, that fixer was mighty proud of his knitter.

While the fixer was fixing the machine, I remarked that the stop motion needed some attention. The fixer said that the mill didn't use those things because it *got along* without them. That was one fixer's opinion; perhaps you agree; we hope, for the benefit of all, that your mill doesn't agree with him.

The Stitch Graduating Device

Little need be said about this simple and effective device, meaning the stitch graduating device, for it gives little trouble once it is properly tuned up. The only part of the device which requires a little attention occasionally is the racking pawl plate and it can be re-shaped or replaced in a few minutes when it finally becomes worn. The machine fixer that really appreciates this device is one that fixed Ks in the days gone by when the stitch graduating device consisted of one short tapered cam on the main drum and three low pattern chain link lugs spaced three or four links apart in the leg.

When the foot and ankle were knit tight enough to fit properly, the leg long enough and loose enough to give the desired length and stretch, you could usually locate three tight rings in the leg without looking too closely. It was not unusual to get called on the carpet for making such gosh awful looking ladies' hose and being told in man's language to stop it or else. The hard part was that we had little or nothing to stop it with unless we knit a tube that was as large in the ankle as it was at the calf or knee, and that was out of the picture, especially on silk work.

But all good things come to those who work and wait; in due time the stitch graduating device came along and our fashioning troubles disappeared. The machine builders will supply the right kind of rack wheel and fashioning cam to suit fine or coarse gauge machines. Silk, cotton, rayon, or mixtures can be knitted and fashioned perfectly. The fixer need only see to it that he has the right chain set-up and keep his machines sized properly, and he will not be called on the carpet for tight rings.

So once again we say to the machine builder, you did a real job when you gave us the stitch graduating device and thanks a lot.

MATTHEW K. MITCHELL

Full-Fashioned Hosiery Machines

(Continued from page 133)

dividual bars may be adjusted for height by using a feeler gauge between the sinkers and knock-over bits. This adjustment should be made when the sinkers and dividers are in the forward position but before the knock-over rollers begin to rise on the high points of the cams. Most machines are equipped with a high knock cam motion to be used in the heavier portions of the fabric. A machine so adjusted to use both cams in the knitting of a stocking has greater versatility than one using only the medium knock-over motion.

These two things should be kept in mind in making knock-over adjustments. If a machine is so adjusted to have only sufficient knock-over during the knitting of the light portions of the fabric to insure clear work, cutting due to this motion will be reduced to a minimum. The higher cam motion should then be used during the heavier portions for greatest efficiency. On the other hand, if only the medium knock-over motion is used throughout, the amount required to clear the fabric in the heavier portions will be so great as to create a strain on the yarn when the light portion is being knitted.

All machines are also equipped with a neutral knock-over setting to insert the welt bars on a legging machine and the transfer bars on a footing machine. On the latter, as little room as is necessary for proper insertion of the bars is desirable. If the knock-over bars are too low at this point they will not permit the needles to enter under the heel tabs properly, causing poor transference of stitches from bars to needles. On the legging machine this setting is not so critical, the main requirement being sufficient room for insertion of the welt bars.

One important point is to be remembered in the adjustment of knock-over bars. If the fabric is distorted at some other point of the stitch formation no amount of knock-over will overcome this difficulty. Excessive knock-over will aid in drawing the loops back into shape, but the amount of difficulty encountered in the form of cutting will offset any advantage gained through this maladjustment. Here, thorough diagnosis by the fixer of the underlying disturbance is the only solution.

(Another installment will appear in an early issue.)

Demand for used circular machines assumed amazing proportions last year.

Oiling Seamless Machines

EDITOR COTTON:

Of all the important factors in the running of a seamless mill, I believe that the proper lubrication of the machines is among the first. This particular job is so important that it is not a waste of time on the part of any executive to see that it is done. I don't mean to over-emphasize the point and have the machines in the plant over-oiled, with most of it trickling down on the floor, but I do want to wake some of the fixers up to the fact that much hard work could be eliminated if the oil cup were used regularly, and in the right places.

In our mill we allow the machines to warm up a bit every morning before we oil them because oil placed on a cold machine part will do harm often where it is intended to do good. There are some parts of the machine that are oiled only twice a week, but the head, needles and sinkers are oiled regularly twice on the day shift and once at night, making three times during the 16-hour run. In the morning the needles, sinkers and cams are oiled once; This is at 8 o'clock. Then in the afternoon at 1 o'clock we oil the same parts again. After the night crew comes on the third oiling takes place, which is usually about 6:30 P. M. The bearings are oiled only once on each shift, or twice a day.

The regular running gear is oiled twice a week.

We use a light grade of knitting machine stainless oil and it does not remain on the machines long; it also washes off better and will not injure the fabric.

We have found from experience that the use of too heavy an oil will cause the machine to stick and cause drop stitches. This defect is more expensive than the use of the light oil, and we had rather oil more often and use more of the oil than to have the defects caused by the use of the heavier lubricant.

Some mills tear down a knitting machine once a year and clean and repair it. We don't do this, but we take care of them and tear them down as we feel the machines should be worked on. Often we clean out the sinkers when they are too tight.

Some people blame machine defects on over-lubrication of the machine, but often there is something wrong with the machine and the defect just does not show up until oil is put on the machine. For instance, maybe there is a broken sinker butt in the machine and the fixer puts in a new sinker but fails to remove the broken end of the butt. Then when the lubricant is put on the machine this broken butt works around and gives trouble. This can hardly be blamed on the lubricant; it was the fault of the fixer for not fixing the machine properly and removing the broken butt in the first place.

CONTRIBUTOR NO. 6708

An Eye on the Knitting Mills

IT IS reported that two hosiery plants from the North are seeking locations in the Southside Section of Virginia. Representatives of the plants have been in negotiation with the chamber of commerce at Lawrenceville, Va., where it is expected the plants will locate.

Machines have been moved from the McMaid Hosiery Mill in Marion, N. C., to Sevier, N. C., where a new mill, a combination of the McMaid and the M. L. Good Mill, is being placed in operation.

Vanette Hosiery Mills, Dallas, Tex., has constructed a one-story addition to provide for the installation of new machinery. The cost of construction and machinery exceeded $40,000.

Lynchburg (Va.) Hosiery Mills have completed a one-story addition, 50x100 feet. The new plant provides expansion in the full-fashioned unit and dyeing department.

Newton (N. C.) Knitting Mills is the name of a new hosiery concern. The plant is located in a building especially constructed for the purpose; it is near the Ridgeview Hosiery Mills.

It is understood that a well-known firm will soon begin construction of a hosiery mill in Narrows, Va., which will employ approximately 120 persons.

Torresdale Hosiery Mills has transferred its finishing plant equipment to Fieldale, Va., where operations will get under way as soon as possible.

Harry J. Pollock, designer and manager of the Olga Knitting Mills, has resigned and is making arrangements to open a new plant at Watertown, New York.

A building is being rushed to completion at Englewood, Tenn., to house a new hosiery mill, the machinery for which will be brought from Narrows, Virginia.

Harris-Covington Hosiery Mill, High Point, N. C., has been granted a permit to build a 60x64-foot addition to the plant. It will cost about $4,000. J. O. Connor & Son are the contractors.

L. & B. Hosiery Mill, Claremont, N. C., is housed in a completely renovated and modernized building. 48 new knitting machines and auxiliary equipment have been installed.

Hugh Grey Hosiery Company, Concord, N. C., has been granted a charter to make and sell hosiery and other knitted goods. The authorized capital stock is $60,000.

Hazen Knitting Mill, Burlington, N. C., has purchased four additional full-fashioned hosiery machines from Robert Reiner, Inc.

Thornton Knitting Mills, Denton, N. C., a subsidiary of Maurice Mills, Thomasville, N. C., has moved into a modern structure.

Jac Feinberg Hosiery Mill, Rock Hill, S. C., is constructing a $10,000 addition to the present plant.

Marvin Hosiery Mill, Lincolnton, N. C., is the name of a new plant with authorized capital stock of $50,000.

May Hosiery Mills, Burlington, N. C., will build an addition to the plant.

TRENDS—THE KNIT GOODS . . .

Decline in Commodities and General Uncertainty of Business Affects Knit Goods Retarding Sales. Hosiery and Underwear Manufacturers Curtail Operations Unseasonally. Except for Lower Prices on Cheap Full-Fashioned and Cotton Hosiery, Quotations are Unchanged

Philadelphia, November 16, 1937

CONFRONTED with a contraction in business activity generally, with the one exception of continued good retail interest, and with lower commodity prices causing manufacturers and others to reduce inventories as the end of the year approaches, knit goods have suffered an unseasonal decline in sales this month. It is estimated underwear manufacturers who should be busy this time of the year are operating only about 40 per cent. Hosiery manufacturers in this section who should also be busy are on reduced operating schedules, many being on half time rates and some of these admit that stocks are being made up, that current production is not all on contract. Yet there is evidence some of the largest chain buyers, watching the situation carefully, have decided that this is a good time to begin buying. They are not buying heavily but it is regarded as significant.

Wage increases made by hosiery manufacturers earlier this year, the union group making increases of 6 to 12½ per cent effective the middle of this year, resulted in heavier buying of full-fashioned than usual during the early part of the year. This is a factor in the curtailment among such plants this month.

This means that many buyers who normally place business in October and November bought their goods a few months previous this year to beat the mid-year price advances so that the annual production of full-fashioned is expected to be very large even though the last quarter does not come up to that of 1936. The dullness in new business has not caused any serious damage to the full-fashioned price structure, the minor cuts reported being confined largely to the cheaper goods. Lower prices for cotton yarns this month have brought about additional reductions in cotton hosiery which jobbers find to be the softest in the market. Lower prices for mercerized yarns have served to retard placing of larger contracts for spring anklets.

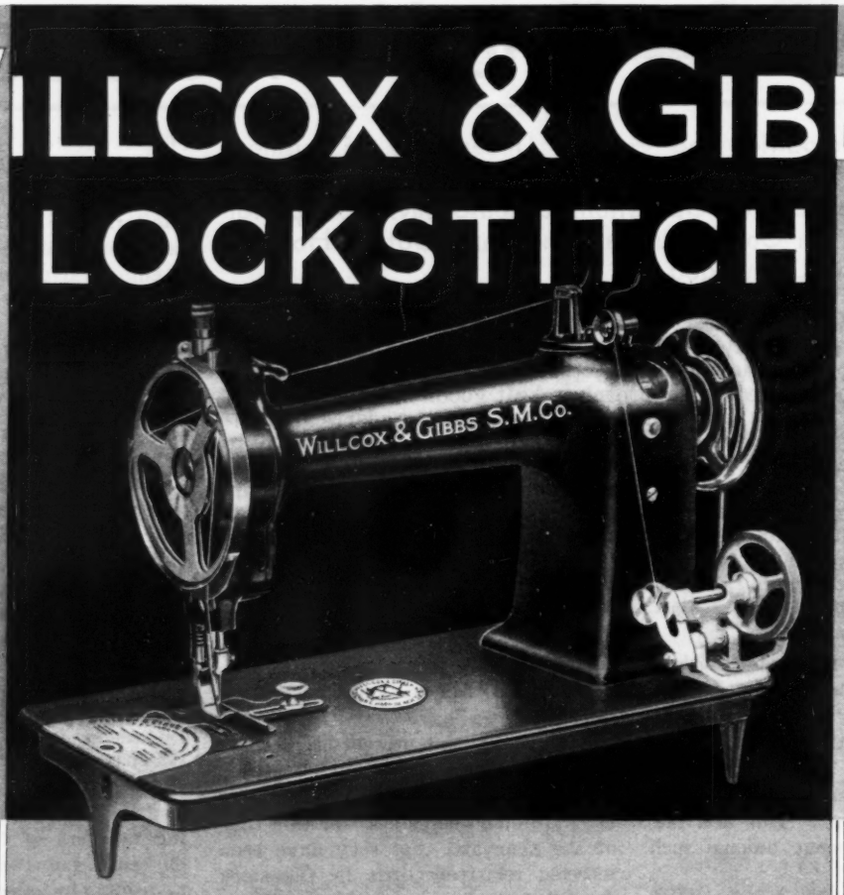
In branded full-fashioned hosiery no price changes have been made and most have set their present prices until the end of the year. Branded houses say they have been doing about their usual volume of business for this time of the year and that they have been affected relatively little by the stock market decline of recent weeks. These knitters say the most unfavorable factor they have encountered this fall is the continued unseasonal weather which has been too warm for the movement of fall apparel. The season is now passed the middle of November without retailers experiencing the full counter-buying they have looked for. Retail hosiery business in branded goods has been satisfactory and all houses are looking forward to a heavy holiday trade. Novelties, especially, are being looked to as potential volume sellers for Christmas.

Iridescent Hosiery Goods

In the novelty end retailers say the outstanding item by far this month has been iridescent hosiery. This is hosiery finished in such a way that color varies under different conditions. One of the leading retailers here who reports that they have been unable to secure delivery of enough iridscent goods this month illustrates this by showing such hosiery under day and night lighting conditions, showing the different effect secured in day and night lighting. This same type hosiery has also been selling actively at retail novelty store counters with black and other colored heels. Several retailers believe the production of iridescent hosiery is a major development and believe that such lines are going to make sufficient progress to take them out of the novelty field. Other retailers say that this is a fad and that after a relatively short spurt, their customers will go back to standard type goods.

Department stores here report doing a very satisfactory volume of business so far this month, with the best selling numbers of full-fashioned around 69 cents, but they also add there is a trading-up among their customers with many now going into the next higher price bracket, which is 77 cents at one store. This trend has been so conspicuous at one department store that they have eliminated full-fashioned hosiery priced lower than this from their main hosiery department, such lines being displayed in another part of the store. Retailers are expecting a large month in December with their volume being expanded by the wide variety of novelty constructions, most of which sell across the retail counter at a price above $1.00 per pair. Consumers are also calling for sheerer hosiery with emphasis on 2-thread merchandise, which of course, is also a higher priced style. The immediate gift appearance of black heels, iridescent shades, meshes, colored heels and other styles.

WILLCOX & GIBBS LOCKSTITCH



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whose construction has definite eye-appeal, are expected to sell in heavy volume to holiday shoppers.

Novelties Greatly Aid Sales

Much of the full-fashioned hosiery heretofore purchased for Christmas giving, was of a last-minute character, with comparative lack of variety preventing selection of a distinctive pair of stockings, which could command a higher price. The larger number of novelty numbers this year will add considerably in stepping up the average sales check and it is expected that a good percentage of the recipients of novelty goods will react favorably to these styles and that retail buying in January will reflect a still larger consumer demand for novelty stockings.

Easiness in full-fashioned prices has been confined to the low-end numbers, on which substantial price concessions have been made. Accerding reports in the market, 39-gauge stockings have been freely available at $4.75 a dozen and 4-thread, 42-gauge ringless, a fair quality, at $5.00. On the other hand, mills that have sold so-called standard quality, ringless 4-thread, 42-gauge as high as $5.85, say that these goods are being taken with no unusual amount of cancellations being received thus far.

Full-fashioned hosiery mills in Pennsylvania that normally are operating at peak rates during the present month are on curtailed schedules. While a few are running fairly well, a majority are down to at least a half-time basis, with further curtailment planned before the end of the year, unless new business picks up in the meantime. This is not expected because retailers are generally cutting down inventories with the idea of making as favorable statements as possible at the year-end. For this reason, there is already considerable optimism regarding the spring season. It is believed that comparatively early spring buying by large outlets may be looked for. Large retailers overbought during the first half of this year, thinking that such a policy would beat price rises materializing from wage increases and other overhead. These heavy purchases early this year are being used now to meet the normal retail demand so that retailers are expected to show relatively small inventories at the end of the year, giving the basis for this optimism concerning early spring coverage.

One of the significant developments has been the demand for 2-thread stockings which has been so heavy that it has surprised even those manufacturers specializing on this construction, and a number of mills report it difficult to turn out 2-threads in the quantities wanted. Every indication points to a continuation of the trend towards sheerer and still sheerer stockings.

Chains are finally making inquiries of full-fashioned hosiery, selling agents and mills to determine what first-quarter prices are likely to be. Ordinarily buyers for large retail organizations and for wholesalers begin their check-up in October, but this fall the market has been so spotty and weak, especially in low-end goods, that they have delayed placing forward contracts and instead concentrated on bargains for immediate delivery. Manufacturers find it almost impossible to give an estimate of early 1938 quotations. In the face of gradual curtailments, which began several weeks earlier than usual, and the reluctance of buyers to operate as they did last fall, they feel the outlook during the first quarter of next year is too obscure for them to take any stand at present. In discussing this, manufacturers say that the 4-thread 42-gauge ringless and conventional goods in popular price constructions not made in accordance with standard specifications, have been the targets of volume buyers seeking goods for immediate delivery.

Congress and Wages

What Congress may do about standardizing wages is interesting Pennsylvania mill men; prospects at the differential now existing between their State and the South may be wiped out. They realize that there will be bitter opposition and that any bill along these lines will be fought so that they do not expect anything to be accomplished in this respect until March at the earliest, if then. Another item receiving study by hosiery manufacturers asked to name early 1938 prices is the Social Security Tax. Next year's Social Security's taxes amounting to 4 per cent of payrolls will mean that full-fashioned manufacturers must include in their costs, a 10-cent-per-dozen impost for that purpose.

The current security taxes amount to 3 per cent. Where ladies' full-fashioned hosiery is being produced at a direct labor cost of $2.50 a dozen pairs during the present year, the minimum increase in cost per dozen pairs for Social Security taxes amount to 3 per cent of $2.50 or 7½ cents per dozen pairs. For the year 1938 the rate of tax increases to 4 per cent and the minimum amount of tax would be 10 cents per dozen, based on direct labor cost of $2.50 per dozen pairs. This 10 cents only covers the Social Security taxes on wages of employees charged to "direct labor."

A curious result of the talk of a boycott of Japanese goods has been an upturn in demand for women's rayon full-fashioned hosiery. Although both the American Federation of Labor and the Committee for Industrial Organization have taken the stand that any boycott should relate only to merchandise made in Japan and should not include raw materials, such as raw silk, some stores are offering rayon full-fashioned hosiery for the first time in many months. Considerable inquiry is reported for Bemberg full-fashioned. Sellers of silk full-fashioned hosiery are inclined to discount the importance of competition from rayon numbers, stressing the fact that women are thoroughly sold on the desirability of sheer chiffon styles. It is also pointed out that the hosiery union has placed itself on record as opposed to any boycott which would include raw silk and that even the sponsors of the "Buy American" movement oppose a boycott on the grounds that raw silk is an essential import.

Children's Anklets

There has been a fair interest on the part of wholesale buyers in placing business for next spring in children's anklets. Several of the large wholesale buying groups have made their commitments for another season in these lines, large buyers recognizing that the time is getting short for mills to make up this merchandise for delivery when wholesalers want it. Manufacturers in many instances have revised their prices on anklets downward during the last month and it is now felt that prices have been stabilized at an attractive level. There have been several reductions in merceriezd yarn prices over the last month which to a certain extent have offset increases in labor costs early this year, so that it is generally anticipated that retail price tags on these lines will be approximately unchanged from the spring of 1937.

Warm weather this fall has been an unfavorable development for the sale of men's wool half-hose as well as women's lines of silk and wool. Hosiery jobbers say that unless cold weather makes its appearance very shortly, stocks of these lines will have to be carried over to another season. Notwithstanding this recent development, there was a startling increase in the sale of men's wool socks during the first seven months of 1937 compared

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Our gift to you: millions of *permanent* hosiery customers . . . a ready-made market whose discriminating tastes and exacting demands we've helped you satisfy in '37 . . . whose demand for hosiery that is dull and soft and fine of texture, yet sturdier, longer-wearing,—you'll cash in on in '38—with brands *that are "Brosco" Finished.

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with the corresponding months of 1936. Manufacturers feel that this upward trend in the sale of men's wool socks reflects consumer demand based on the comfort and other advantages of wool stocks. It is also felt the coming holiday period will offer an excellent opportunity for retailers to obtain new customers for men's half-hose with elastic tops. There are many men today still wearing the conventional top-sock, who might be found responsive to promotions of tops with elastic if they are pleased with gifts of such hose for Christmas.

"Hold Prices Firm"—Constantine

The hosiery industry has been advised by Earl Constantine, managing director of the National Association of Hosiery Manufacturers, to hold prices firm during the present letdown in orders. It was emphasized that manufacturing costs are not going to be lower during the next six months but higher and that wages are not going lower while taxes are going higher. An additional 1 per cent tax for unemployment insurance applies on the payrolls beginning January 1, 1938, bringing manufacturers' total annual tax for this and old age benefits to 4 per cent per annum. In addition, Congress is scheduled to study wages and hours legislation which if enacted, will increase wage costs. Hosiery prices which have prevailed during 1937, do not allow for reductions, he said. They call for strengthening and not weakening, so that many mills during the recent slowing of demand and easing of low-end goods have preferred to curtail operations rather than to sell at a loss.

The first seven months of 1937 showed increased shipments over the corresponding months of last year, as of September 30, total shipments for 1937 exceeding the record shipments of 1936 by 8.9 per cent and the year is likely to end ahead of last year. The percentages by which shipments for each of the first nine months of the current year exceeded the shipments of the corresponding months of last year are as follows: January, 16; February, 32.5; March, 20.5; April, 11.8; May, 4; June, 12.3; July, .6. Months of the current year which fell short were: August, 3.9, and September, 5.8. The increased shipments of the first seven months of this year are explained in part by an attempt of the buyers to anticipate higher labor costs resulting from unionization, proposed legislation and also by the tendency since last fall for retailers to maintain full stocks. It is believed the balance of the current year will travel on its present momentum and that manufacturers should follow their usual tactics of curtailing even further immediately following the holidays.

Higher Crepe Standards

The excellent acceptance of crepe hosiery by consumers has been outstanding retail development this fall but several large retailers have warned full-fashioned hosiery manufacturers not to lower their standards on crepes. They also warn buyers not to press for prices on them so low that they would mean a reduction in crepe standards. There has been evidence some mills were making or preparing to put on the market "crepe" stockings made of yarns containing considerably fewer twists than the minimums recommended in August 1936 by the National Association of Hosiery Manufacturers. Most of the trade feel any lowering of crepe standards because of the competitive pressure will be a serious mistake. One re-

tailer said that good crepes have given the better stores an opportunity to get away from cheap merchandise and promote goods in the $1.00 to $1.35 range. Several retailers say that up to 90 per cent of the business of some good departments is on crepe stockings at present. This business would be endangered if stockings labeled "crepe" to sell at 59 cents were offered.

Apex Sues County for Damage

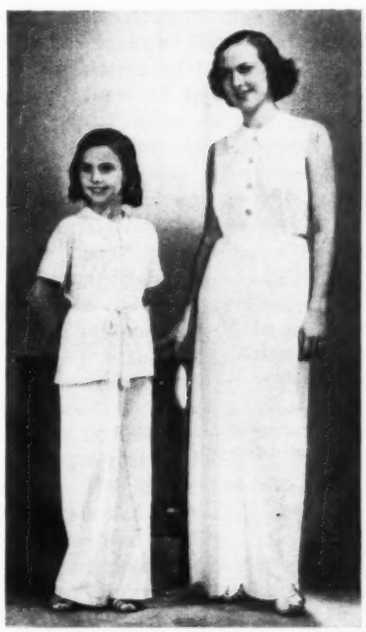
PHILADELPHIA—Suit for $1,026,793 was filed October 27 by Apex Hosiery Co., against Philadelphia County for alleged damage to the company's plant during the sit-down strike that began last May and which was terminated by an agreement with the hosiery union late in July. The suit which charged lack of police protection during the strike, was brought under an old statute. The company's petition estimated the damage as follows: $17,000 on May 6 when the plant was forcibly occupied by the strikers; total damages from May 6 to June 23, $159,000; due to interest on the investment and maintenance, $250,000; loss of business through inability to fill orders, $600,000. Apex last summer sued the American Federation of Hosiery Workers for $3,000,000 strike damages. This action brought in the Federal District Court under the Sherman Anti-Trust Act, is still pending. The new action against the county was brought in Common Pleas Court.

Underwear Prices Being Stabilized

Important parts of the underwear industry are running only about 40 cent at present including mills up-State in Pennsylvania while New York State units have also been curtailing in the last weeks. Re-orders on heavyweight underwear for the current fall season have been light due to the large buying that occurred early this year and also because of unseasonable warm weather in many sections that has acted to slow retail movement of such lines into consumer hands. Advance orders likewise for next spring have been irregular and slow coming in except in some of the branded advertised lines. The outlook is that many mills will be operating on part time for the balance of the year. It is felt that prices for next spring have by this time been well established and the new quotations are at least as low as last year's opening and on some competitive numbers like men's athletic shirts are actually lower than a year ago.

This policy of curtailment by underwear manufacturers for the balance of the year is of importance to wholesale buyers. It concerns the factor of deliveries for the future and especially the coming lightweight season. Mills not running or running only part-time are not piling up stocks and buyers can not expect them to get into full production immediately. It is true manufacturers recognize the possibility of new legislation on hours and wages as well as for a new processing tax on cotton, all of which would mean higher costs to be passed on in the price of the finished merchandise. At the same time, mills will hardly be led to build up excess reserves on such a possibility alone, that is, without some encouragement from customers in the way of orders.

The re-order business in heavyweights while not up to expectations has improved slightly, especially when cold weather developed, there being reports of fair-size duplicates in several parts of the market. They concern both men's and women's numbers, likewise children's goods, and confirm the insistence of wholesalers that all is needed in these lines is favorable weather. Some of the mills making heavy wool underwear are now accepting new business for the balance of the season at the original prices. This means that advances in wool numbers made during the middle of the year are being removed. In the heavy cotton-ribbed end of the market a survey showed that mills were holding closely to the general price understanding on numbers like 12-pound men's suits and the corresponding cotton ribbed shirts and drawers. Allowing for the difference in price, due to bundle packing and no hangers, prices obtained have shown no important change, indicating that large mills making ribbed numbers are still holding to the opening price level of the first of the year. The children's numbers, as usual, are doing better under present conditions than the men's and women's goods, which is usually found to be the case when a general let-down in business takes place.



Courtesy Industrial Rayon Corporation

This mother and daughter combination offers exceptional opportunity for holiday promotion

Some gain in buying for next spring is reported in parts of the market. Orders are not running up to a year ago but there have recently been more wholesale buyers in the market than at any time since these lines were opened. Manufacturers are wondering just what the spring buying plans really are of those buyers who have so far placed no business at all. Whether they intend to get down to work in the next few weeks or wait until the first of the year is a question that can not be answered at this time. The delivery question does not appear to enter the calculations of buyers delaying in placing their commitments. Some of them maintain that they have fair-size stocks of staple items like men's athletic shirts to at least begin the new season. The policy of these buyers will be largely determined by the business they do in heavy underwear in the course of the next few weeks. If cold weather should happen to rule for most of this month, interest for another season would immediately increase.

A number of inquiries have recently been coming into selling offices regarding manufacturers' plans for the next fall season of 1938 Salesmen just back from the road on spring selling trips have been encountering such inquiries and from large buyers One explanation for such unusual inquiries, considering that so many buyers have not even operated for next spring, is that the fall numbers run into weight and represent higher labor costs. Therefore, if there are to be new laws from Washington, also a new cotton processing tax, the fall end of the manufacturing would be most seriously affected. Another explanation for such inquiries is that buyers want to get an inkling of future prices as they refer to present inventory values. Some wholesalers take inventory at the end of this month, although the large majority do not take stock until the end of the year.

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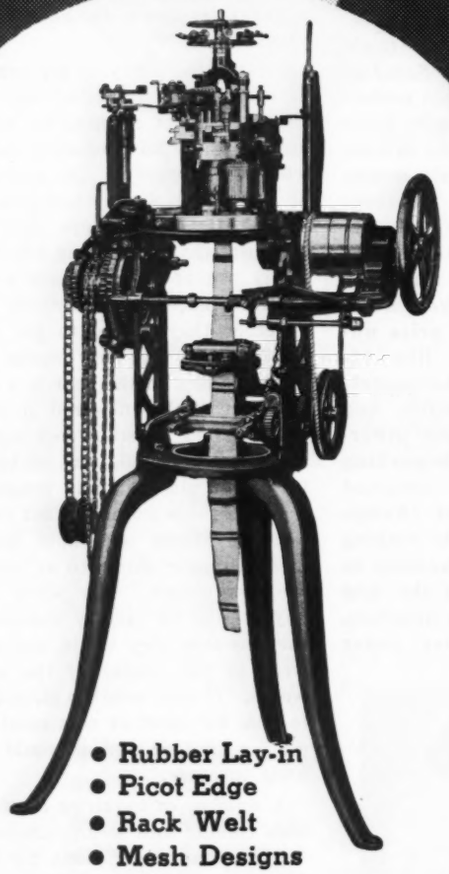

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Large wholesalers display a noticeable amount of uncertainty over the future with a recession in general business resulting in increased unemployment. In the face of this, some of them have sizable stocks on hand. In heavy numbers there is still confidence that a continued period of cold weather would reduce stocks to safe proportions but price changes following the decline in all the staple raw materials, like cotton, wool, and silk are, of course, in the minds of these buyers. Manufacturers do not believe that further price changes are going to help as spring prices on underwear are low, and represent a natural decline from the low of last year's spring opening.

Figures for the first eight months of the year on production of men's heavy knit union suits, either of cotton or wool, show production for the current year of 1,843,000 dozen, which compares with 1,123,000 dozen for the first eight months of last year. This represents a gain for 1937 of 720,000 dozen or 64 per cent. This indicates that mills of this type were operating the first three-quarters of this year at a record pace. It stands to reason that with such a large production turned out earlier, substantial re-ordering could not be looked for as early as usual. Stocks of men's heavy cotton or wool knit union suits on hand with manufacturers at the end of August totalled 740,000 dozens compared with 577,000 dozens last year.

There is at present an increased interest on the part of wholesalers in polo shirts for next season. This inquiry on the part of wholesale distributors added to actual buying by one or two of the large chains has given an improved outlook to this end of the market. It is reasonable to suppose that actual buying must start on next spring's polo shirts shortly if wholesalers plan, as usual, to get their salesmen out on the road for next season by the first of the year. It is noted that prices are not meeting with any criticism but there is some doubt as to the style on which they should concentrate for the new season. Most of them are expressing confidence that the newer types of crew neck pullovers will sell in an important way, both in men's and boys' sizes. It is felt there will be a good demand for the regular polo shirts with finishes like the color type. In addition to the knit polo shirts, considerably more woven numbers are being shown than ever before, some of these being in the lines of knitters and not confined to the shirt manufacturers. Some of the new styles show a woven front with a knit back.

Recommendation Made in Davis Elastic Top Study

WASHINGTON, Nov. 23. The committee representing the seamless hosiery industry has agreed to recommend to the industry payment of one-half cent per dozen royalty on all first quality hose manufactured with tops that would infringe on patents held by Elastic Patents Company, Chattanooga, Tenn. This committee was appointed by the Southern Hosiery Manufacturers' Association to study the question. The patents are assigned to Robert E. Davis, Fort Payne, Ala. Under the agreement manufacturers were to begin payment as of December 1, 1937, each manufacturer stamping the number of his license on his goods to make them identifiable. The recommendation of the committee does not commit any manufacturer. This agreement of one-half cent per dozen royalty reduces the original royalty of two cents per dozen by one and one-half cent, the Elastic Patents Company now making approximately $20,000 annually on royalties. The meeting to decide upon royalties was attended by representatives from the seamless industry, machinery manufacturers, and the Elastic Patents Company.

Prices on the men's heavy cotton ribbed underwear numbers have so far held remarkably firm. The general quotation on the 12-pound suit continues at $6.25 with one suit not classed in the top bracket being reported at $6.00. The low in next spring prices was reached when several manufacturers of men's combed athletic shirts were offering buyers as low as $1.40 to $1.42½ a dozen, the weight being given as two pounds. These figures are below anything of last year and are exceptional, as the market usually is quoted at $1.50 to $1.55 for a ribbed shirt of this weight. Several chains have started to operate in these lines, having become convinced that such prices offered to buyers by manufacturers are the lowest that can be expected, even under present conditions. They also feel that outside factors, such as new legislation and perhaps a new processing tax in cotton, will force higher prices.

Manufacturers necessarily in selling ahead for next spring are protecting themselves by clauses covering such situations that would come from legislation of this kind. The standard form of this clause reads as follows: "Prices on any undelivered portion of this contract are subject to increase or decrease by the amount that any new Government legislation or action affects seller's costs." Some large buyers are requesting that the word "Undelivered" be changed to "Unmanufactured." They naturally have in mind in this move to avoid paying extra costs on merchandise already made up before the new legislation, if any, goes into effect. Roy A. Cheney, managing director of the Underwear Institute, in a letter addressed to all underwear manufacturers early this month, pointed out the heavy production of underwear during the first eight months of the year shows the apparent need of curtailment of production by these mills. He said it should be obvious that nothing, especially under present hesitant business conditions, will develop that volume of ordering to which underwear manufacturers would like to adapt their production. "If our mills realize this situation and accept the obvious necessity of curtailment, they can meet the present market conditions without demoralization," Mr. Cheney declared.

Hosiery Demands in September

The National Association of Hosiery Manufacturers, in its current *Statistical Bulletin of the Hosiery Industry*, states that the moderate recession in general business activity which is being written into the statistical records at the present time has not yet had any great effect upon the demand for hosiery. Rather, it appears that the current figures for the hosiery industry continue to reflect a compensation for the unusually high shipments recorded earlier this year.

Total shipments of all types of hosiery in September 1937 amounted to 11,418,423 dozen pairs. This figure shows a seasonal increase of 6.5 per cent over shipments for the preceding month of August, although it was 5.8 per cent below shipments of all types of hosiery in September 1936. Shipments of women's full-fashioned hosiery in September 1937 were 3.5 per cent greater than shipments 12 months previous, but demand for most seamless types in September of this year was below last year.

Total shipments of all types of hosiery during the first nine months of 1937 were still 8.9 per cent above shipments for the comparable period in 1936. All types except children's and infants' hosiery and cotton bundle goods contributed to the increase. Gains in shipments for the first three quarters of this year over the first three quarters of last year ranged from 1.2 per cent in the case of men's half-hose to 20.9 per cent in the case of anklets.

Both full-fashioned and seamless knee-length types contributed to the decline in shipments between August and September.

REVIEW OF THE YARN MARKETS

Dullness in All Yarns. Prices of Worsted and Cotton Yarns Drop While Rayon and Silk Remain Unchanged

Philadelphia, November 16, 1937

WITH curtailment the rule among textile manufacturers, demand for yarns of all types has been very quiet this month, more so than any previous month this year. In addition to dull demand sellers of yarns especially in worsted and cotton have been faced with further declines in prices in worsted yarns to lower wool prices and in cotton yarns to need of spinners for business. In raw cotton there has been only a half-cent drop in the month and since the November record-breaking crop estimate was published November 8 the raw market has been showing steadiness, indicating that this may have been discounted. Even so buyers of cotton yarns are holding off; some look for slightly lower prices yet. In rayon and silk prices have not changed materially but dull demand is causing more pressure on sellers. No cuts in rayon are expected by manufacturers because of increased costs by such producers in the way of labor and raw materials.

Cotton Yarns

Cotton began to show significant steadiness shortly after publication of the November crop estimate and in fact many commodities then turned upward which may mean the long decline has been stopped. This has not yet developed any worthwhile demand for cotton yarns and spinners at present are curtailing operations, waiting for goods manufacturers to get new business so that yarn consumption may be expanded.

Although raw cotton declined only ½ cent in the last month cotton yarns have declined ½ to 2½ cents, the latter being registered in combed yarn like 30s single which a month back sold for 32½ cents compared with 30 cents quoted at present but in carded knitting the drop has been only about ½ cent while in carded weaving counts like 20s two-ply that a month back went for 22½ cents are now held about 1 cent lower. This greater cut in yarns than cotton in general means that spinners' margins have continued to contract and this in turn means less profits until the picture changes.

Persistent cutting has been the rule in mercerized yarns. The last reduction was announced by processors November 4 when the list was cut 2 cents bringing the main count of 60s two-ply down to 63c for a new 1937 low. The same count early this year went for 79c so that this means an important reduction in costs to such makers of knit goods as anklets; mills working on these for next spring have this advantage where no higher priced yarns were previously bought. Three reductions in mercerized yarns were announced in little more than a month by mercerizers in line with lower gray yarn prices and also to meet competition.

Worsted Yarns

One of the most severe monthly drops in worsted yarns seen in recent years has occurred since the middle of October. Prices are off as much as 15 cents, such counts as 2-20s, 50s Bradford, a main count with makers of sweaters, has dropped from $1.20 to $1.05 and in some cases this count is offered at 95 cents which would be a drop of 25 cents in a month. Such a sharp decline in so short a time means that spinners and manufacturers alike have to make important readjustments that may take some time before confidence is again developed.

Acute weakness in the wool top futures market was the impelling reason for the slump in prices closely followed by a decline in spot wools. The top futures market has dropped about 10 cents in the last month but yarn prices went off from that figure to 15 cents so that yarns have at least been keeping abreast with the wool top futures decline or even ahead of it, indicating that spinning margins are now very small. Worsted yarn spinners are running at less than half time rates and some of this is going into stocks. There is no interest as yet in yarns for the coming spring season although manufacturers say some of the large buyers should begin to operate if they want to get the goods delivered in time.

Current prices of worsted yarns are in a number of instances lower than reached in 1936. As an example, knitters claim now that they are able to buy 2-20s, 50s, at 95 cents, which compares with a peak reached early this year of $1.40. The lowest price quoted on this count in 1936 by the large spinners here was $1.10. In view of this, worsted yarn spinners believe that the trend of outerwear manufacturers using larger quantities of the so-called cheapener yarns to cut their raw material costs will subside and expectations are that during 1938 worsted yarn spinners will be able to regain some of this business that went to such yarns as cotton cores, cotton-worsted twist and rayon blends.

Rayon Yarns

Producers of rayon yarns are experiencing a sharp falling off in new business and for the first time in several years are curtailing operations. Deliveries during October showed a sharp contraction and there is nothing in the current outlook to indicate that manufacturers will be any more anxious to take in yarn supplies during the present month. Although producers have made up their minds that curtailment programs will be adopted when and if their individual stockholdings require a cut in production, some of the smaller producers have already reduced their operating schedules and have stated that they plan a further slowing up once their reserve stocks are adequate. Other producers state that they feel the necessity of building up balance reserve stocks before considering curtailment in hopes that when the active spring buying season starts they will be able to meet customers' requirements more adequately and avoid resorting to an allotment policy. In some cases, while there has been no actual stopping of machines which have been in operation throughout this year, producers are delaying putting new machinery into operation which was to increase plant capacity and this policy will be followed until there is an improvement in yarn demand.

Despite the fact that yarn deliveries to mills have been much smaller, the industry continues in a strong statistical position. While stocks are larger than they were a month ago and are estimated as amounting to three weeks' production most report that stocks are not yet back to normal. Production of yarns in the United States notwithstanding this falling off in demand, broke all records during the first nine months of the current year. Production for the 1937 period is set at 237,000,000 pounds as compared with 209,000,000 in the corresponding period of 1936, an increase of 13 per cent.

Silk

Although displaying an easy tone, at times during the last month, silk prices show very little fluctuation as compared with a month ago. In fact, prices of this commodity have held up better than some other textile fibers, such as wool. This is regarded as significant in view of the handicaps this fiber has encountered.

The Japanese-Chinese undeclared war with its resultant talk of an American boycott has assumed a less-important influence than a month ago, although it is a factor that is still being considered by various consumer units. A more important factor influencing the market has been the unseasonal decline in full-fashioned hosiery manufacturing operations indicating a smaller consumption of silk by the hosiery industry, which takes approximately 75 per cent of the silk imported from Japan. Mill deliveries amounted to 36,002 bales, which compares with 43,093 bales in the same month in 1936. Imports were 32,879 bales during that month, resulting in a decline in New York warehouse stocks of about 3100 bales as of November 1. During the balance of November and into December the market faces a seasonal increase in broadsilk use but a falling off in hosiery use, indications being that curtailment among hosiery manufacturers will be more severe than usual from the present time until the end of the year.

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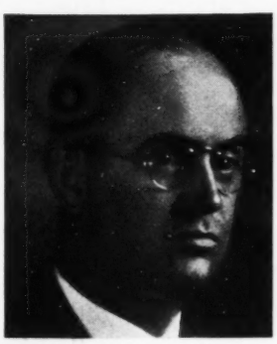

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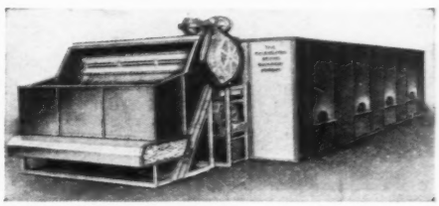

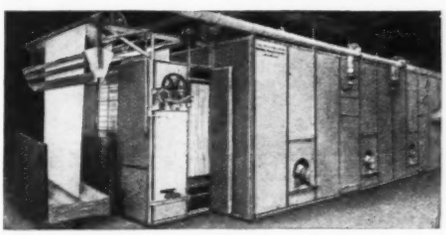

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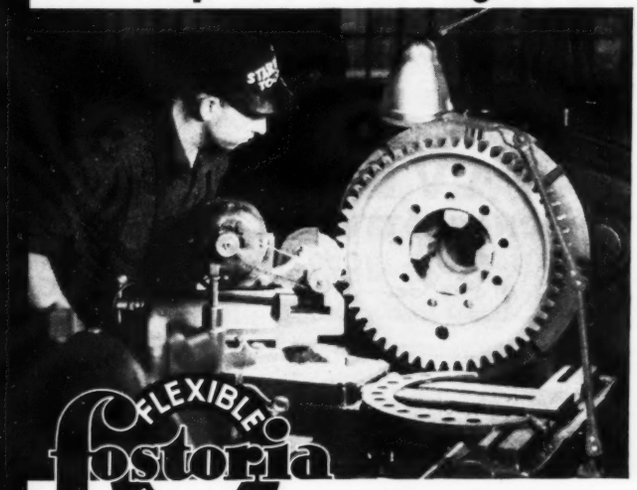

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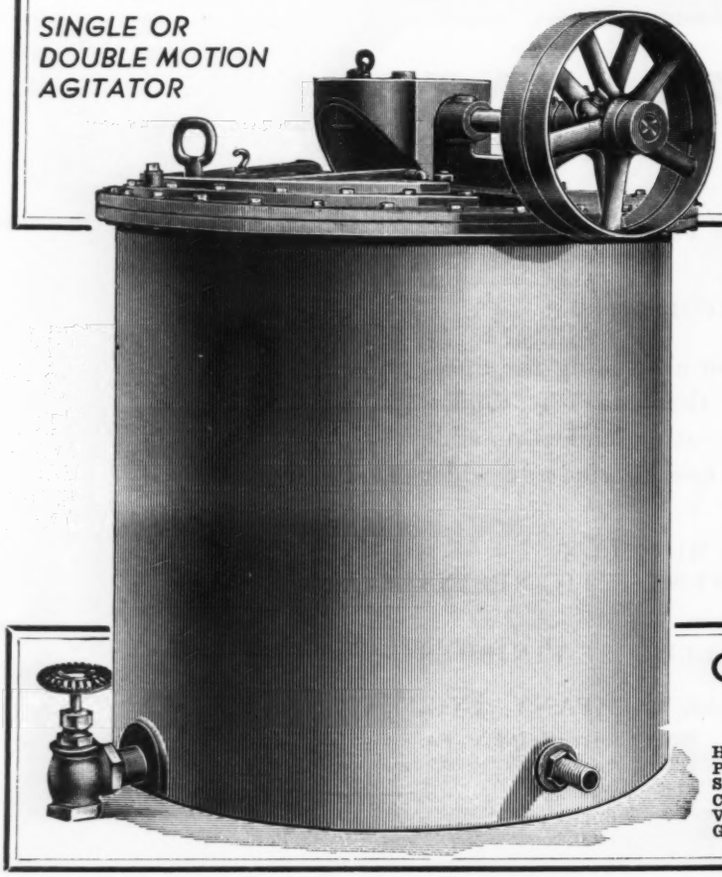

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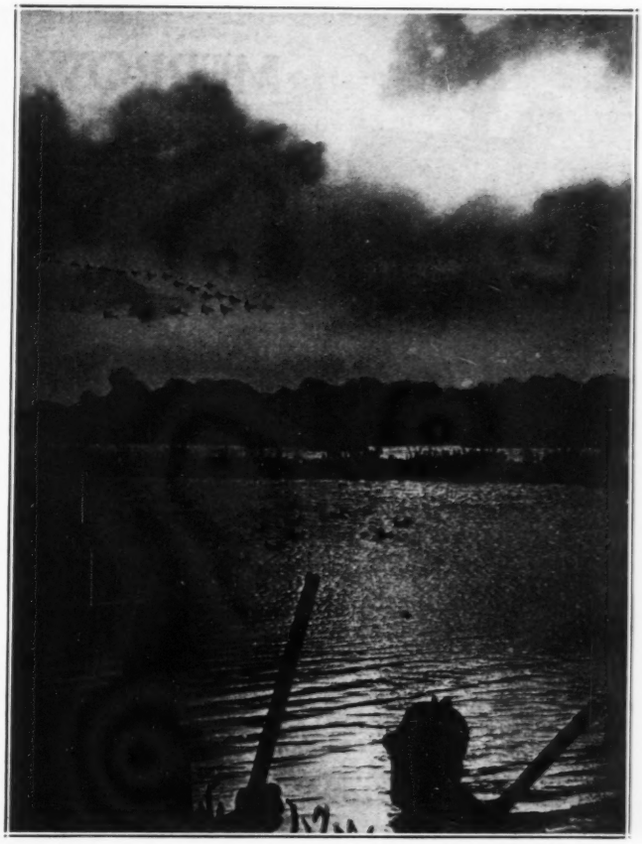

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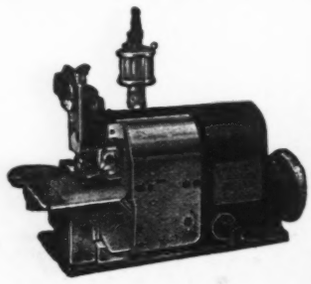

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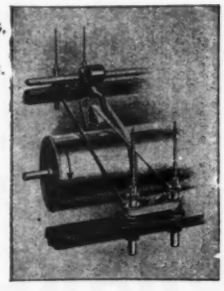

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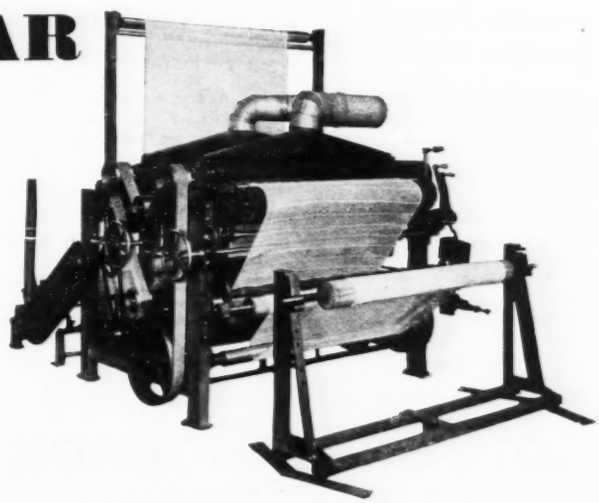
Write for further particulars on this and also our new DOUBLE ACTING WARP FLOAT CUTTER.



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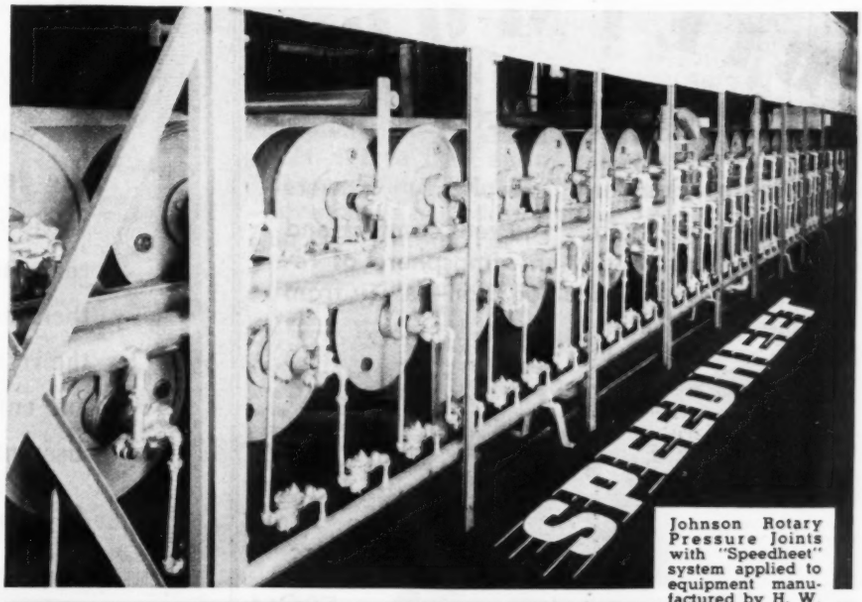
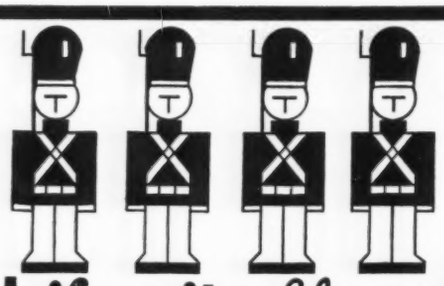


Johnson Rotary Pressure Joints with "Speedheet" system applied to equipment manufactured by H. W. Butterworth & Sons Co. installed in plant of Pacific Mills, Lyman, S. C.

Johnson
Rotary PRESSURE JOINT



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SEYCO is packed in rustproof steel drums for protection and convenience. Every ounce available for use, and will keep indefinitely. **Ask for Demonstration!**

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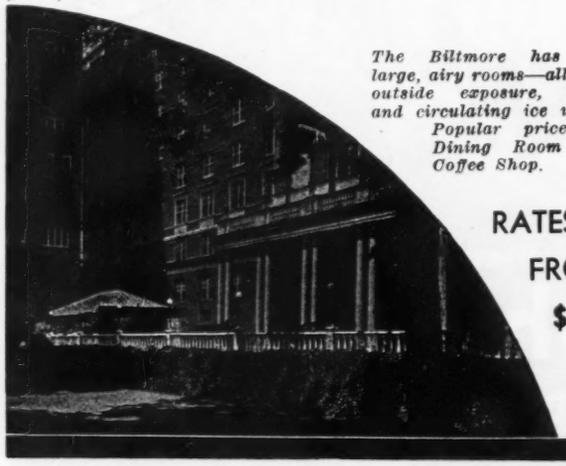

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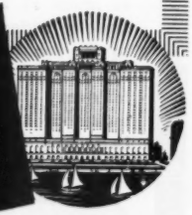

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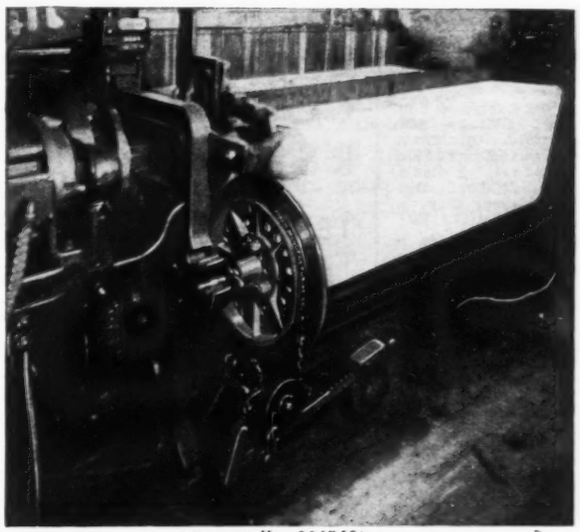
ACCEPT THIS GIFT (IF YOU HAVE 1,000 LOOMS) OF $5,000 FOR 1938



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THE IDEAL METAL
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STONHARD RESURFACER
The World's Standard Floor Resurfacer

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That Assure

TOP PRODUCTION

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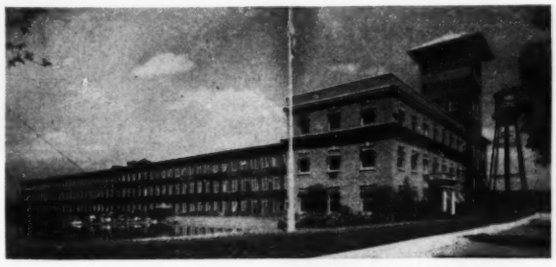

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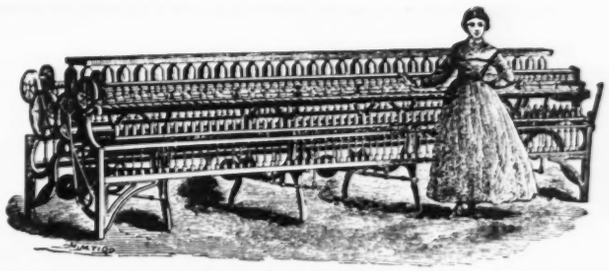

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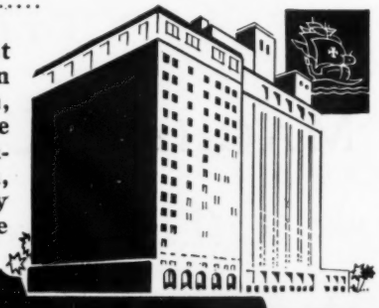

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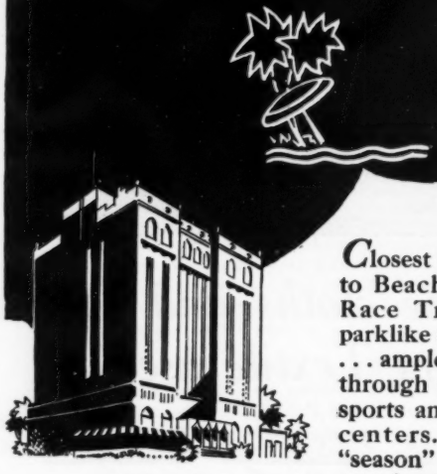

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The

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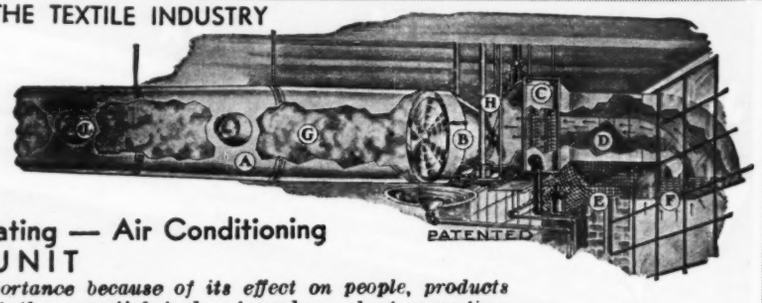

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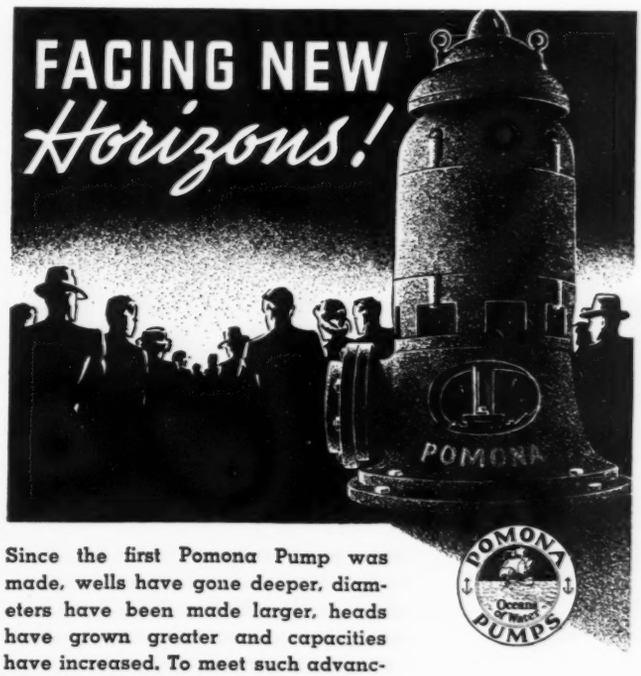

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